

Urban Youth Supplemental Report
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Managing Fear, Giving Hope

HIV/AIDS and Family Planning
Behavior Change Communication
Guidelines for Urban Youth

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Chapter 1

Background

Rationale

Many call for empirically-grounded, theoretically-based behavior change communications. Yet, time after time empirical research goes unused as message designers abandon the often difficult task of translating data into usable information, relying instead on inspiration, brainstorming, or intuition for designing health communications. The problem with this approach, of course, is that mistakes are made and miscommunication occurs despite having “research” to back up one’s interventions.

The purpose of this supplemental report is to provide a systematic, easy method for developing effective health risk messages using data gathered according to a well-tested behavior change communication theory. In other words, our goal is to demonstrate how to translate theory and empirical research into practice. By using theory-based research in our health risk messages, we more efficiently and effectively develop communications that work. Cost is reduced as well because the use of data and a proven theory cuts trial-and-error time as well as expensive mistakes.

By the end of this report, readers will understand the theory upon which the project is based and understand the process of using data to generate messages that work. For practitioners working in specific regions, detailed regional information is provided in tabular form at the end of the report.

Overview of Project

The Ethiopian Reproductive Health Communication Project (RHCP/E) is a four-year Information, Education, and Communication (IEC) initiative in Family Planning and HIV/AIDS Services. The RHCP/E is part of the USAID Supported Essential Services for Health in Ethiopia (ESHE). The Ethiopia National Office of Population implements the project with technical assistance from Johns Hopkins University Population Communication Services (JHU/PCS). The purpose of the ESHE program (and the RHCP/E project) is to improve the health status of Ethiopians and to help reduce population growth rate. The ultimate goal of RHCP/E project is to increase demand and use of Reproductive Health Services.

An Urban Youth baseline including both qualitative and quantitative components was conducted between May and September 2000 with participants aged 15-30 in the following five regions of Ethiopia: Addis Ababa and Environs, Amhara, Oromia, SNNPR, and Tigray. The work was grounded in the Extended Parallel Process Model, a health risk message theory integrating 40 years of health communication research. The purpose of the research was to better understand the motivations, barriers, benefits, and risks perceived by urban youth in terms of family planning use and HIV/AIDS prevention. The full report is available from Johns Hopkins University/Population

Communication Services (JHU/PCS), c/o Kate Stratten, 111 Market Place, Suite 310, Baltimore, MD, 21202, USA or from the Ethiopia Office of JHU/PCS, c/o country representative Araya Demissie, Dashen Building, First Floor, Addis Ababa, Ethiopia, 251-1-18-78-08.

Limitations

The guidelines offered in this report are unique to our sample only – urban youth ages 15-30 in the Addis Ababa/Environs, Amhara, Oromiya, SNNP, and Tigray regions. Additional research is needed to create guidelines for other groups like rural youth, those aged 30 and over, and those residing in other regions. Ideally, a nationally-representative survey should be conducted to create the best programs possible.

"Managing Fear" – The Extended Parallel Process Model

The KAP-Gap

Many health communication practitioners and educators have noted the "KAP-Gap" – representing the gap between Knowledge (K) and Attitudes (A) with actual Practices (P). That is, while knowledge and attitudes regarding a health threat and what to do to prevent it can be high, there is still no self-protective behavior. This "KAP-Gap" is apparent in Ethiopia, as demonstrated by the following quotations:

"Studies carried out in various parts of the country showed that both the in-school as well as the out-of-school youth had a high level of knowledge about HIV/AIDS. Sadly, such a high knowledge did not lead to lower risk behaviour among the youth." (*Source: HEC/NOP, December 2000, from two studies published in Ethiopia Journal of Health Development and Ethiopia Medical Journal*).

"Surprisingly enough, many men said that despite the knowledge of high prevalence of HIV infection and AIDS, people are still very much reluctant to protect themselves from acquiring the infection. They themselves seemed puzzled by this fact and could not explain it neither why people are doing so." (*Source: original data, HEC/NOP, December 2000*).

To address the Ethiopian KAP-Gap, the Extended Parallel Process Model (EPPM), a model of health risk behavior change that integrates nearly 50 years of research and theorizing, was used. This theory was selected for two reasons. First, this model addresses the so-called KAP-gap by gathering information on the underlying mechanisms to behavior change. By gathering information on the model's key variables, campaign designers can more efficiently and effectively develop campaign messages that fit urban youth's specific needs. Second, the EPPM is most appropriate for motivational (as opposed to awareness or knowledge) campaigns, where the focal audience already has a high level of knowledge about health threats. Given the high levels of knowledge toward family planning and HIV/AIDS reported by DHS respondents as well as found in other surveys for Ethiopians, this model was deemed appropriate for this study. It has been tested in nearly 50 studies across a wide variety of topics (e.g., HIV/AIDS, cancer, occupational safety, environmental risks) and populations (e.g., Hispanics, Kenyans, juvenile delinquents, the elderly, etc.) with good empirical support.

The goal of the EPPM is to provide guidance on how to manage fear generated from threatening health risks like HIV infection or having more children than desired. Fear is a powerful motivator, and the key to a successful health campaign is to channel this fear

into a direction that promotes adaptive, self-protective action, and prevents maladaptive, inhibiting, or self-defeating actions. Following is a brief narrative of the theory.

The Extended Parallel Process Model (EPPM)

According to the EPPM, when people are faced with a health threat they either control the danger or control their fear about the danger. The variables that cause individuals to either control the danger or control their fear are:

Threat: The degree to which one feels susceptible to a serious threat, composed of two dimensions:

Severity of Threat: The perceived seriousness of a threat; the magnitude of harm (e.g., injury, loss, death, etc.). Is contracting HIV serious? Are there negative consequences associated with having more children than desired?

Susceptibility to Threat: The perceived likelihood of experiencing a threat. Am I at-risk for contracting HIV? Am I at-risk for having more children than desired?

Efficacy: The degree to which one believes they are able to effectively, feasibly, easily do a recommended response that would impede or avert a threat, composed of two dimensions:

Response Efficacy: Beliefs about whether or not the recommended response works in averting the threat. Do you think condoms prevent transmission of HIV? Do you think the pill prevents having more children than desired?

Self-Efficacy: Beliefs about one's ability to perform the recommended response. Are you able to use condoms to prevent HIV transmission? Is it feasible for you to use the pill to prevent having more children than desired?

Research has shown that perceptions of threat and perceptions of efficacy jointly influence health-related behaviors such that:

1. **When perceived threat is low, there is NO response to the message.** If a health threat is believed to be trivial or irrelevant to a person, then individuals simply ignore any communication about a threat. For example, if individuals hear about a polio outbreak in China but live in Ethiopia, then they will perceive the threat to be irrelevant to them and they won't pay any attention to messages about polio (this is an example of low perceived susceptibility). Similarly, if there is a flu outbreak in Ethiopia, but people don't think of the flu as being serious, then they won't respond to a message about the flu because it's of so little priority in their lives (this is an example of low perceived severity).
2. **Threat motivates action.** The greater the threat perceived, the more motivated one is to do something (anything!) to get rid of the negative feelings caused by the fear arousal. That is, the more serious one believes a threat to be and the more vulnerable one feels toward that threat, the greater the fear aroused, and the greater

the motivation to do something. Thus, when individuals feel susceptible to a serious threat, they are motivated to act.

3. **Efficacy determines what type of action is taken.** Once motivated to act, perceived efficacy determines if persons will take danger control or fear control actions. When perceived efficacy is high, i.e., people believe they are able to do a recommended response that effectively averts the threat, then they are motivated to control the danger and they adopt the recommended action. In contrast, when perceived efficacy is low, i.e., people doubt if they are able to do a recommended response and/or they believe the recommended response to be ineffective against the threat, then they turn instead to controlling their fear and engage in psychological defense mechanisms like denial (e.g., “there’s no such thing as HIV”), defensive avoidance (e.g., “I just don’t want to think about it”), or reactance (e.g., “this is just a government plot”). Thus, when perceptions of threat are strong, high perceptions of efficacy promote danger control actions (self-protective actions) and low perceptions of efficacy promote fear control actions (self-destructive actions).

In short, ***perceived threat motivates action, perceived efficacy determines the nature of that action.***

In summary, the EPPM suggests that when people feel at-risk for a significant threat (high level of perceived susceptibility and severity), they become scared and are motivated to act. Perceptions of self-efficacy (i.e., perceived ability to perform a recommended response) and response efficacy (i.e., whether or not the recommended response is seen as effective in averting a health threat) determine whether people are motivated to control the danger or control their fear. When people feel able to perform an action that they think effectively averts a threat (strong perceptions of self-efficacy and response efficacy), then they are motivated to control the danger and engage in self-protective health behaviors such as condom use to prevent HIV infection. In contrast, when people either feel unable to perform a recommended response and/or they believe the response to be ineffective (e.g., they believe condoms have holes), they give up trying to control the danger. Instead they control the fear by denying their risk, defensively avoiding the HIV/AIDS issues, adopting a fatalistic attitude, or perceiving manipulation (e.g., AIDS is a hoax that really is a government plot).

Because danger control actions are self-protective – people adopt the recommended response and protect themselves from the threat – these are the types of actions we want to promote in any health intervention. Recall that strong perceptions of threat and strong perceptions of efficacy promote danger control actions. Thus, we want people to feel susceptible to a serious threat, but at the same time, we want them to sincerely believe there is something they can easily, feasibly, and effectively do to avert that threat. Following is a chart that depicts the relationships between perceptions of threat and efficacy, followed by a suggested message strategy. Please note that these message strategies can be used via interpersonal channels (as in counselor-client, doctor-patient, or peer educator encounters) or mass media channels (as in a public service announcement or entertainment education program).

<u>PERCEPTIONS</u>	<i>High Efficacy</i>	<i>Low Efficacy</i>
	Beliefs that one is able to avert a threat and that recommended response work in averting a threat.	Beliefs that one cannot avert a threat, and even if s/he could, it wouldn't work anyway.
<u>High Threat</u> Beliefs that one is at-risk for a significantly harmful threat	<i>Response: Danger Control (take protective action)</i> <i>Message Strategy:</i> Emphasize severity and susceptibility to the threat; reinforce response and self-efficacy beliefs.	<i>Response: Fear Control (in denial, defensive avoidance, reactance)</i> <i>Message Strategy:</i> Emphasize response and self-efficacy only (already motivated to act given high threat perceptions).
<u>Low Threat</u> Beliefs that a threat is irrelevant and/or trivial	<i>Response: Lesser Amount of Danger Control (some protective action taken but little motivation to act)</i> <i>Message Strategy:</i> Emphasize severity and susceptibility to the threat to motivate action; reinforce response and self-efficacy beliefs.	<i>Response: No Response (no threat perceived; no motivation to act)</i> <i>Message Strategy:</i> Emphasize response and self-efficacy first, then emphasize severity and susceptibility to the threat to motivate action.

For the present project, we collected data according to these theoretical guidelines, so that we could specifically diagnose where urban Ethiopian youth were in terms of danger control or fear control. With this information, we can bridge the KAP-gap and influence the mechanisms underlying behavior change, thereby effecting behavior change. Following is a brief description of our methods. The next chapter describes the procedures used to extract the information needed from the data within the EPPM's theoretical guidelines in order to promote danger control actions.

Methods Overview

To understand the "KAP-Gap," an expanded knowledge (K), attitudes (A), and practices (P) survey was conducted where the underlying mechanisms to behavior change (specifically: susceptibility, severity, response efficacy, and self-efficacy), as well as the variables that influence these mechanisms (such as social norms, cultural beliefs, environmental constraints, etc.) were assessed as well. The focus of the study was on family planning and HIV/AIDS. In EPPM parlance, the health threats were "having more children than desired" and HIV infection, and the respective recommended responses were family planning methods to prevent having more children than desired, and safer sex practices (e.g., condoms, exclusive monogamy, abstinence) to prevent HIV infection.

The target population was 15-30 year olds living in the two most populous towns from five regions in Ethiopia (Tigray, Amhara, Oromiya, Southern Nations and Nationalities, and Addis Ababa and environs). Four focus groups per region were conducted with separate male/female groups and separate teen (ages 15-20) and adult (ages 21-30) groups, for a total of 20 focus groups. The study plan also called for a sample of 160 household surveys per region, for a total of 800 household surveys drawn from a statistically representative sample. The sample size of $n = 800$ was selected based on statistical power analysis with effect sizes extracted from previous studies (per Cohen, 1988), with beta and alpha set at conventional levels of .80 and .05, respectively (two-tailed tests), and substantially exceeds the number of participants necessary to prevent Type II error for health risk message research. A total of 792 household participants [aged 15-30 years] were interviewed from the ten towns of targeted regions. About three-quarters of the respondents were female (74%) and about one-quarter of the respondents were male (26%). Possible explanations for why fewer males may have been unavailable for interviews were that interviews were conducted during the day when they may have been away at work, they may have been away at war, or they may have been working at out-of-town jobs. It is worth noting that in the most recent census, there were always greater numbers of females as compared to males in this age group in each of these regions.¹

By utilizing both quantitative and qualitative research methods, we were able to gather representative information as well as detailed explanations on family planning and HIV/AIDS practices and perceptions based on our theory.

¹ For example, the 1994 census reported 456,874 males to 535,710 females in the 15-30 age group in Addis Ababa and Akaki.

Overview of the Data

Both the focus groups and the surveys elicited existing perceptions of susceptibility, severity, self-efficacy, and response-efficacy, as well as current behavioral practices (e.g., condom use, denial, etc.). With the baseline knowledge provided by the focus groups and surveys, we are now ready to systematically develop theoretically-based campaign messages that (a) promote adaptive, life-saving actions, and (b) avoid unintended effects from messages that might inadvertently promote fear control actions that inhibit protective action.

As stated previously, campaign materials that promote high levels of susceptibility and severity as well as high levels of self-efficacy and response efficacy will motivate danger control actions that lead to self-protective family planning and safer sex responses. However, if campaign materials scare people without promoting strong self-efficacy and/or response efficacy perceptions, then they may backfire and cause denial, defensive avoidance, or reactance responses. Campaign materials may include messages at the interpersonal level, between patients and providers, or messages via mass media channels such as public service announcements, billboards, or even radio soap operas.

GOAL: *Promote Danger Control Responses*
(i.e., adoption of protective behaviors)

To do this, we must promote:

- Strong perceptions of Susceptibility
- Strong perceptions of Severity
- Strong perceptions of Self-Efficacy
- Strong perceptions of Response Efficacy

Some Background

It is important to note that the “response format” used for each of our theoretical variables was a Likert-type response format. In a Likert-type response format, study participants are given a statement and then asked to give their extent of agreement or disagreement with it, as follows:

"It is possible that I will have more children than I really want."

	1	2	3	4	5
Strongly Disagree	Slightly Disagree	Neutral	Slightly Agree	Strongly Agree	

(Example of a perceived susceptibility statement toward having more children than desired)

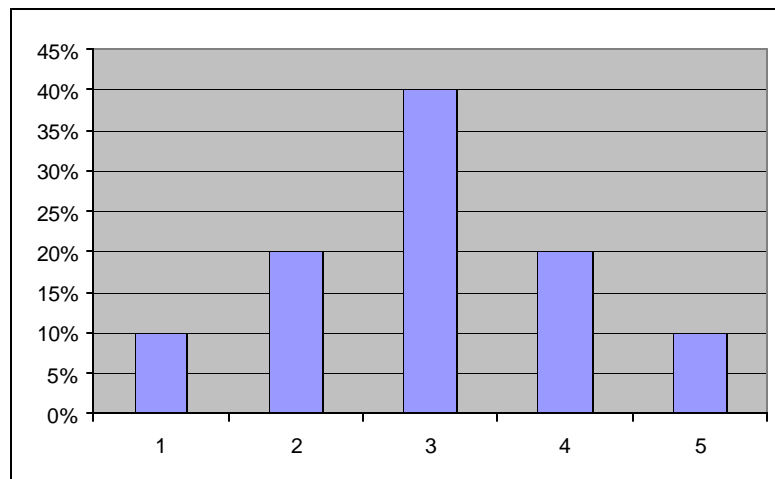
A Likert-type response format allows study participants to carefully choose a response that best represents their opinions or feelings. It is far preferable to a simple yes/no answer because there is likely to be a much greater amount of error in a simple yes/no answer. For instance, some participants may say "no" to the above statement, but say it hesitatingly. Other participants may say "no," but say it strongly and convincingly. Even though variation in responses exists between these two sets of participants, it would appear in the data results that both said emphatically "no." If they had been given a Likert-type response format instead of the yes/no format, then researchers would have been able to distinguish between these two groups as the former would have likely have chosen a "2-Slightly Disagree" on the scale above, and the latter would have likely chosen a "1-Strongly Disagree" on the scale above.

Using a Likert-type response format also allows for more flexibility and precision in statistical analysis, which is important if we want to get accurate answers to questions. However, it is critical that the survey respondents truly understand what the different points mean when answering questions. There was some concern as to whether or not we would get valid answers using a Likert-type response in Ethiopia. However, two pilot studies indicated that the urban youth easily grasped the concept of "more agreement" versus "less agreement." Reliability analysis also indicated that the Likert-type response formats tended to produce scales that were internally consistent. Therefore, for the urban youth we are confident that this response format produced valid and reliable answers. For other focal populations, however, it would be critical to conduct small measurement studies to find out how best to represent the concept of "more" or "less" agreement for use as a response format in surveys. (For example, in Indonesia, there was a common saying that indicated degree of agreement or disagreement with someone based on a unit of currency; in that study this currency terminology was applied as a culturally understood response format to gauge degree of agreement or disagreement with a statement.)

It is also important to know what a "frequency distribution" is. A "frequency distribution" is simply a graph of the study participants' responses. In the following frequency distribution, the numbers at the bottom of the graph represent our Likert-type scale with "1-Strongly Disagree," "2-Slightly Disagree," "3-Neutral," "4-Slightly Agree," and "5-Strongly Agree." The numbers on the left vertical column represent the percentage of respondents choosing that number in response to the statement, "I like tomatoes." So, 10% of the respondents chose "1" indicating that 10% of the respondents "strongly

disagreed” that they liked tomatoes. Similarly, 40% of the respondents chose “3” indicating that 40% of the respondents had a neutral response to their liking of tomatoes. Steps 1 and 2 below utilize frequency distributions to analyze the data.

Figure 3.1 Hypothetical responses to the statement: “I like tomatoes.”



Steps to Effective Message Design

There are 5 steps to using the data and theory to develop effective health risk messages. Each step is detailed below. Chapter 4 uses these steps to develop guidelines for the family planning data and Chapter 5 uses these steps to develop guidelines for the HIV/AIDS data.

Step 1: Examine Frequency Distributions of Each Theoretical Variable by Itself

The first step is to examine the distributions of responses to each of the four theoretical variables. (Recall our four theoretical variables are susceptibility to threat, severity of threat, response efficacy, and self-efficacy.) By examining the distribution of responses (ranging from “1-Strongly Disagree” to “5-Strongly Agree”) we can see where members of the sample population fall in terms of their levels of perceived susceptibility, severity, self-efficacy, and response efficacy. For example, we want to know if levels of perceived susceptibility are high, medium, or low.

GOAL: To understand the level of perceived susceptibility, severity, response efficacy, and self-efficacy.

- How high or low is perceived Susceptibility?
- How high or low is perceived Severity?
- How high or low is perceived Response Efficacy?
- How high or low is perceived Self-Efficacy?

Our goal is to have high levels of each of these. We need high levels of perceived severity and susceptibility to motivate action, according to the EPPM. And, we need high levels of perceived response efficacy and self-efficacy to properly direct action into danger control responses instead of fear control responses. The data should be examined with this theoretical guidance in mind.

Step 2: Compare the Mean Score (i.e., averages) of Each Theoretical Variable to Each Other

Next, we compare the mean score (i.e., average score) of each theoretical variable to each other. Remember, while we want to promote high levels of each of these variables, more importantly, we want to make sure that perceptions of response efficacy and self-efficacy are always higher than perceptions of severity or susceptibility. Why is this? Because as long as perceived efficacy is stronger than perceived threat, then respondents are in danger control and are able to engage in self-protective behaviors. But, when perceived threat (i.e., severity, susceptibility) is stronger than perceived efficacy, then respondents are in fear control, where they engage in psychological defense mechanisms that prevent self-protective actions.

GOAL: To understand how perceptions of threat compare to perceptions of efficacy.

- Are perceptions of efficacy higher than perceptions of threat? (This finding would indicate respondents are in danger control. This is the condition we want as it indicates a willingness to protect one's self.)
- Are perceptions of threat higher than perceptions of efficacy? (This finding would indicate respondents are in fear control. We do not want this condition as it indicates maladaptive defensive responses.)

If the data show that perceptions of threat is higher than perceptions of efficacy, then we'll know our audience is in the fear control process and that they're already feeling very frightened. Therefore, any campaign intervention would need to focus only on

response efficacy and self-efficacy issues. In contrast, if the data show that perceptions of efficacy are stronger than perceptions of threat, then we'll know our audience is in the danger control process and in addition to efficacy messages, may also need to be made aware of their perceived susceptibility to a threat, as well as the severity of a threat.

Step 3: Create Chart of Belief Strength

The third step is to compile the information learned in steps 1 and 2 into a chart that will tell us what the intervention should focus on. Simply mark an "X" into the appropriate place in the chart to give you an overall picture of what your messages will need to focus on. Again, you want each of the theoretical variables to be in the "strong" category.

<i>Theoretical Variables</i>	<i>Weak or Low Belief Strength</i>	<i>Moderate Belief Strength</i>	<i>Strong or High Belief Strength</i>
Susceptibility			
Severity			
Response Efficacy			
Self-Efficacy			

GOAL: To determine if perceptions of susceptibility, severity, response efficacy, and self-efficacy need to be strengthened or minimized.

Step 4: Determine what Influences the Theoretical Variables

In the fourth step we now begin to work backwards. We know that perceived susceptibility, severity, response efficacy, and self-efficacy each positively influence behaviors, but what influences these variables? Now we examine correlation matrices to assess what variables/beliefs/practices are associated with each of the theoretical variables. Correlation matrices will show if two variables are significantly associated with each other, that is, they are associated with each other beyond chance. Regression analysis is better, because it will show how (Those with more advanced statistical skills would want to conduct a path analysis to simultaneously account for

how all the different variables work together to influence desired behaviors. Using path analysis is far preferable to using correlations, if possible.) By examining how different variables relate to each other, we begin to understand the causes of our theoretical variables.

Typically, we examine several classes of variables, as follows:

1. demographic variables (age, sex, marital status, occupation)
2. life experiences (age at first sex, prior illnesses, prior experiences)
3. knowledge
4. awareness
5. cultural/religious beliefs
6. social norms
7. quality of care issues
8. barriers (transportation, cost, access, beliefs)

(Of course, to conduct this type of analysis practitioners have to had utilized a survey that assessed each of these variables.)

Based on regression or path analysis (preferably) or even correlational analysis, we fill in the following chart to determine which of these antecedent variables listed above appear to affect which of the theoretical variables below.

<i>Theoretical Variables</i>	<i>Antecedent Variables (variables associated with or causing the theoretical variables)</i>
Susceptibility	
Severity	
Response Efficacy	
Self-Efficacy	

By doing this exercise, we gain a complete picture of the specific issues our behavior change communications need to address.

GOAL: To determine what issues, beliefs, or variables are affecting perceptions of susceptibility, severity, response efficacy, and self-efficacy.

Step 5. Create Chart of Beliefs to Change, Introduce, Reinforce

The fifth step is to outline specifically how the theoretical beliefs should be influenced in a communication intervention. This chart is our summary chart which will guide the development of the behavior change communications. Taking the information in the steps 3 and 4 charts, we now can determine what beliefs/issues we need to introduce, change, or reinforce.

Theoretical Variables	Beliefs to Introduce	Beliefs to Change	Beliefs to Reinforce
Susceptibility	<i>Put information here if any of the variables are at very low levels or if there are a lot of "no responses." Indicates you have to introduce these ideas to the population. For example, if people didn't know where to get tested for HIV, you might explain that.</i>	<i>Put information here if misconceptions exist and you need to directly counter certain perceptions. For example, if respondents believe that condoms cause HIV infection, you would directly want to refute that belief.</i>	<i>Put information here that emphasizes what respondents already believe. For example, if respondents believe that "the pill" works in preventing pregnancy, you would want to reinforce that belief.</i>
Severity			
Response Efficacy			
Self-Efficacy			

GOAL: *To specifically list the beliefs to introduce, change, or reinforce according to each theoretical variable, utilizing information from charts in steps 3 and 4.*

Now you have summarized the data in a manner that makes it easy to use. It has diagnosed exactly what issues or variables to focus upon in a behavior change communication intervention, as well as indicated how that issue should be addressed – should it be emphasized, de-emphasized, accurately explained due to myths, etc. Once you have completed this task, you are ready to develop your messages based on the data and theory.

Message Design Guidelines

Your analysis of the data has indicated whether these variables need to be increased or decreased. How do you go about doing that? This section discusses how to devise messages that either increase or decrease perceptions related to susceptibility, severity, response efficacy, and self-efficacy. It also gives advice on what direction the message should take in influencing a theoretical variable.

When an Audience has Low Threat Perceptions

Recall that according to the EPPM we want to move people into strong levels of danger control processing. To do this, individuals need to have high perceptions of threat and high efficacy perceptions. When individuals or audiences have too low perceptions of threat, they are not motivated to act. When perceptions of susceptibility or severity are low, then messages need to increase them in order to motivate action. These threatening messages will help motivate your audience into further action. However, it is critical that any threatening messages be accompanied by strong response and self-efficacy messages regarding the recommended response. You do not want to risk increasing threat perceptions so much that they begin to exceed efficacy perceptions (because this would cause people to go into fear control). However, it also is important to note that the judicious use of threatening messages helps to motivate people into far more action than efficacy-alone messages would.

Designing Messages to Affect Perceived Susceptibility

High susceptibility messages, by definition, make an audience feel at-risk for experiencing a threat. A high susceptibility message is personalistic, focusing on **you** and people just like you, as opposed to general others. Therefore, to increase perceived susceptibility, messages need to emphasize or illustrate how the health threat occurs to people who are demographically, psychographically, and in any other way possible, identical to your intended audiences or clients. An effective way to increase perceived susceptibility is to have someone adversely affected by the health threat who is just like the intended audience speak to this audience live. In the case of “having more children than desired,” you might find someone who is very similar to members of the target audience who has had “more children than they originally intended” to talk candidly about how this experience has negatively affected their hopes, dreams, and plans for a wonderful life. Following are two example messages that focus on different levels of susceptibility for the case of HIV/AIDS prevention for governmental employees:

High Susceptibility: You, personally, are at-risk for HIV infection, if you even occasionally have unprotected sex. In an average government office, a recent study showed that 2 out of 10 persons was HIV+. This finding indicates that many persons just like you, who work with you and live lifestyles similar to yours, are being infected with HIV. HIV just doesn’t happen to other people – it happens to people just like you. Always protect yourself.

Low Susceptibility: Many persons in Ethiopia are at-risk for HIV infection if they even occasionally have unprotected sex. The country-wide infection rate may be as high as 2 out of 10 persons who are HIV+. This finding indicates that many Ethiopians are being infected with HIV. Anyone can get HIV – it can happen to anyone. Always protect yourself.

The high susceptibility message shows how “you, personally,” and how “people just like you” are getting infected with HIV. In contrast, the low susceptibility message shows how HIV affects people generally, how it affects Ethiopians and “anyone.” The former increases motivation to act whereas the latter would decrease motivation to act.

Designing Messages to Affect Perceived Severity

High severity messages make individuals believe that the magnitude of harm from experiencing a certain threat is extremely serious, harmful, and negative. High severity messages are vivid, graphic, and descriptive. Therefore, to increase perceived severity in a message, one should describe in vivid language and with vivid pictures and sounds, the negative consequences of experiencing a threat. To decrease perceived severity in a message, one would describe the negative consequences associated with a threat in neutral, bland terms. For example, following are two types of HIV/AIDS severity messages :

High Severity: HIV/AIDS is a *deadly disease*, often accompanied by *personal suffering*, a great deal of *pain*, and many bodily problems such as *oozing sores*, *nausea*, and *diarrhea*.

Low Severity: HIV/AIDS affects the immune system and prevents the body from fighting off opportunistic infections. Many health problems are associated with the disease. Socially, people often are affected as well.

The italicized words in the “high severity” example are examples of “vivid” words, because they bring descriptive pictures to life. Message designers can also increase perceptions of severity by showing pictures or telling stories of awful, negative consequences associated with a health threat. The low severity message describes the disease in more neutral, general terms.

****Please note that most individuals already have extremely high perceptions of severity of HIV/AIDS and a great deal of fear. Therefore, these types of high severity messages for HIV/AIDS most likely would not be needed. This example was used to illustrate the differences between high severity and low severity messages only. For the case of HIV/AIDS, where there is already a great deal of fear and heightened severity, practitioners would probably want to use the low severity message, to avoid generating too much fear.**

When an Audience has High Threat / Low Efficacy Perceptions (those in Fear Control)

When individuals have high perceptions of threat but low perceptions of efficacy, then health risk messages that are too threatening may backfire. These people are already scared by a health threat because they perceive serious negative consequences and they believe they are at-risk for experiencing the threat. For these people, absolutely no mention of the severity of the threat or their susceptibility to the threat should be made in the message. They are likely already in fear control because of their high threat / low efficacy perceptions. Your task, then, is to help them shift from fear control to danger control. To do this you need to decrease perceptions of threat/fear to a manageable level and increase perceptions of efficacy so they have hope and believe they can do something to effectively avert a threat. The trick here is to maintain some perceptions of threat so as to motivate action, but get threat perceptions to a low enough level so they're not immobilizing people with fear. Again, the main focus of the message should be increasing perceptions of response efficacy and self-efficacy. Often, one does not even need to address threat perceptions when already

existing perceptions of susceptibility or severity are high; one simply needs to focus on efficacy perceptions.

Designing Messages to Affect Perceived Response Efficacy

To increase perceived response-efficacy, one should emphasize that the recommended response works and that it is effective in averting the threat or decreasing one's chances of experiencing the health threat. Ways to make people believe a recommended response works include statistics, testimonials, anecdotes, and demonstrations. Some persons are persuaded that something works when you cite numerical evidence that it does. For example, "studies show that the pill prevents pregnancy 99.9% of the time when used correctly" is an example of a statistical message designed to increase perceptions that the pill works in preventing pregnancy. Other persons are more persuaded via testimonials or anecdotes regarding whether or not something works. For example, celebrity testimonials for the effectiveness of certain products are often used as a persuasive device. For family planning, a famous singer might talk about how she used the pill for three years and that it worked 100% for her in preventing pregnancy. Or, someone can relay an anecdote or story about the woman who was so fertile she had five children in five years, but she went and got an IUD and now she's been pregnancy free for 7 years now – the message is that the IUD successfully and effectively prevented pregnancy for 7 years. Finally, vivid demonstrations about a product's effectiveness also can increase perceived response efficacy. For example, one HIV counselor who was tired of his clients saying their condoms broke all of the time "because they were too big for them" finally pulled out a condom, grabbed a lifesize mannequin head, stretched it over the mannequin's head, and when the condom remained fully intact enquired, "is your penis bigger than his head?" The counselor demonstrated that condoms are effective and don't break if put on correctly. Following are two example messages that focus on different levels of response efficacy for condom use:

High Response Efficacy: Research has shown that the virus that causes AIDS cannot pass through latex condoms' pores. Rubber condoms virtually always block the virus from passing from a partner to you. Studies have shown that HIV infection rates were 100 times lower for promiscuous persons who used condoms, compared to those who didn't use condoms. Fresh condoms, properly put on, are strong, stretch to be as big as you need them to be, and are your best protection against HIV infection.

Low Response Efficacy: Research has shown that the virus that causes AIDS can pass through lambskin condoms' pores (but not through rubber condoms). Because of this, you can't always be sure that condoms will prevent HIV infection. Some studies have shown that despite wearing condoms, individuals still got infected with HIV. Therefore, you can never be sure if condoms will work or not.

It should be noted that there will probably never be a time when you would use a low response efficacy message. However, one may run across low response efficacy messages like this in popular media or via the rumor mill.

The only time one might want to use a low response efficacy message is when one comes across a popular practice that truly doesn't work, and you want to discourage its use. For

example, if you develop a low response efficacy for the use of a traditional herb for pregnancy prevention, then you would emphasize via statistics, testimonials, anecdotes, or demonstrations, how the herb failed to prevent pregnancy in many cases.

Designing Messages to Affect Perceived Self-Efficacy

To increase perceived self-efficacy, one should emphasize a person's ability to do the recommended response, the ease with which one can do the response, and the feasibility and convenience of doing such a response. To increase perceived self-efficacy, it is critical to address perceived and actual barriers to one actually performing a recommended response. For self-efficacy in particular, it is important to identify the variables or issues influencing these perceptions (as in the charts in steps 1-5 above) in order to specifically address them.

Perceived self-efficacy often is more difficult to influence than the other theoretical variables because those with low perceived self-efficacy have often faced failure and are in need of a good dose of hope and success. For instance, a woman may have tried to use a condom but it may have fallen off during intercourse and got stuck up inside of her. This failure associated with the condom, as well as the physical discomfort and embarrassment of getting it stuck in her, is likely to convince her that she is not able to use a condom. In this case, perceived self-efficacy would be positively influenced by increasing knowledge about how to use the condom properly, accompanied by a demonstration of how it should be put on correctly. Social factors also may influence perceived self-efficacy. For example, in the case of condom use, many people may not believe they are actually capable of using condoms because they are too embarrassed to talk about them, fear that the suggestion of using a condom would ruin an intimate mood, or do not know how to go about bringing up the topic in a sexual encounter.

Bandura (1977) has noted that an individual's self-efficacy perceptions are developed from four sources of information:

- Role playing or modeling (i.e., performance accomplishments)
- Verbal persuasion (e.g., instruction, persuasive messages, suggestions)
- Watching live modeling (i.e., vicarious experiences)
- Physiological states (e.g., relaxation, biofeedback, and symbolic desensitization)

Performance accomplishments, such as role-playing (or performing) the recommended behavior, often work the best in increasing self-efficacy perceptions. When people have the opportunity to role-play difficult behaviors or recommended responses, it provides them with ideas and strategies for how to act in real situations. Role-playing is an especially useful means to increase perceived self-efficacy with regard to a recommended response. In the case of condom use, for example, one might have audiences or clients practice (a) bringing up the issue of condoms, (b) persuading a reluctant partner, and (c) persuading a willing partner to follow through on the use of condoms. If mass media are used, then one might have actors who are similar to the target audience role-play these same scenarios (this

would be vicarious experience). Finally, it is critical to address perceived and actual barriers when addressing self-efficacy in a message. The data analysis will point out which issues act as barriers to perceived self-efficacy. Following are examples of high and low self-efficacy messages:

High Self-Efficacy: Most people in your age range now know that condoms are available at all chemist's and health clinics. They are free, of good quality, strong, and durable. It is easy to use a condom and instructions on use are usually in every packet of condoms. Because so many people are now familiar with condoms, it is no longer embarrassing to talk about them. In fact, they are a way of showing you care about yourself and your partner.

Low Self-Efficacy: Many people today are afraid to talk about condoms, because doing so makes it seem as if you sleep around or even might be infected with the virus. It is embarrassing to bring up the topic with a partner and most people do not know how to use them properly, causing breakage and spillage. They are expensive and difficult to find.

Again, there will probably never be a time that one would want to decrease self-efficacy perceptions. This example is for illustrative purposes only.

When an Audience has High Threat / High Efficacy Perceptions (those in Danger Control)

When individuals have high perceptions of threat and high perceptions of efficacy, they are motivated to act and have the means to do so. In this case, your message can simply reinforce these beliefs. Messages should continue to motivate these people to engage in self-protective behaviors by emphasizing the severity of the threat and one's susceptibility to the threat. Similarly, strong response efficacy and self-efficacy beliefs should be reinforced to ensure that the efficacy level remains higher than the threat level.

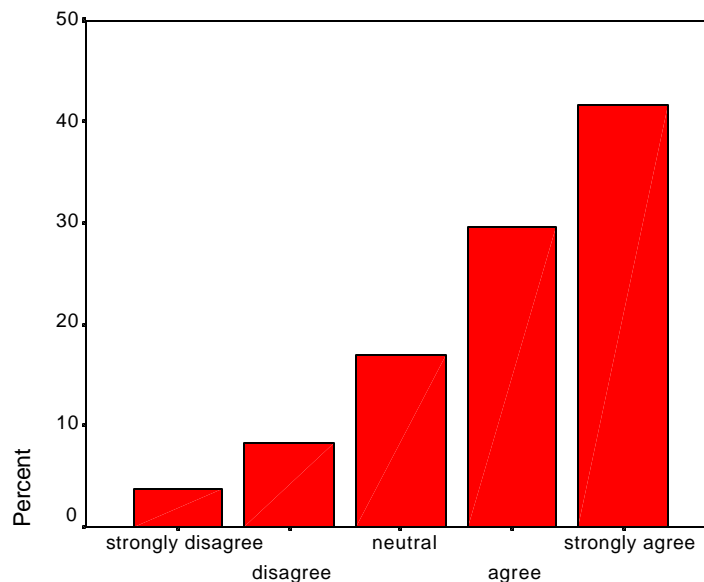
Overview

Is there a KAP-gap?

Let us first check and see if the KAP-gap exists for family planning in Ethiopia. A brief examination of the data, indeed, shows a significant family planning KAP-gap. Specifically,

- a. Knowledge/Awareness regarding family planning is high: Spontaneous knowledge/awareness about any family planning method was 85.1% (defined as ability to list various family planning methods and what they do), and prompted knowledge was 95.1%. Spontaneous and prompted knowledge is highest for pills (84.5% and 92.1%, respectively) and condoms (84.2% and 91.8%, respectively), as compared to other methods.
- b. Attitudes are positive toward family planning methods: Table 4.1 below shows the positive attitudes urban youth have toward modern family planning methods.

Figure 4.1 Attitudes toward modern family planning methods, represented as statements of approval, e.g., “Modern Family Planning Methods are Good.”



- c. Actual Behaviors are substantially lower: Of those ever having sex, about 38% of the respondents had never used any family planning method during the past year to avoid a pregnancy, and another 6% reported “not knowing” if a family planning method was used (i.e., unsure if a partner was using something or not).

These results represent a gap between the high levels of knowledge and positive attitudes toward family planning methods, and the much lower actual family planning behaviors.

What predicts the KAP-gap?

As reported in subpoint “c” above, about 44% of the urban youth ever having sex had never used or didn’t know if any family planning methods were used in the previous twelve months; 56% of urban youth ever having sex said they had used a family planning method during the previous year. What are the characteristics associated with these two groups of urban youth who have had sex? Is it simply demographic variables that distinguish between the two groups like sex or age? Is it knowledge or awareness of available family planning methods? Or, is it the risk communication variables outlined in the EPPM?

Logistic regression analysis, a statistical technique that assesses which variables significantly distinguish between two groups, was used to determine what was causing urban youth to fall into one group versus another. The following process was used to assess what predicted urban youth who used a modern family planning method (like the pill) versus those who did not.

1. Demographic variables were entered first, to see if factors such as sex, age, marital status, religion, occupation, education, age at first sex, number of sexual partners, etc., predicted which group youth fell into.
2. Then, awareness of family planning methods and knowledge about family planning methods variables were entered.
3. Finally, the risk communication variables of susceptibility, severity, response efficacy, and self-efficacy were entered.

The results revealed that demographic variables, knowledge, awareness, prior experiences, norms, barriers, etc., did **not** cause people to use versus not use modern family planning methods, like the pill. Instead, two of the risk communication variables significantly distinguished between the urban youth who did versus did not use a modern family planning method.

The following table shows that perceived self-efficacy and perceived susceptibility were the key factors that distinguished between urban youth who did use a family planning method during the last year, versus those who did not. These two variables provide a good model fit explaining membership into the two groups ($\chi^2 = 11.42$ (df 8), $p = .18$), and successfully predict those youth who used a modern family planning method during the last year 91% of the time. This figure shows that the major reasons youth use or do not use modern family planning methods are due to these two risk communication variables (the other variables in the model, perceived severity, response efficacy, and defensive avoidance, did not

significantly predict group membership by themselves but appeared to contribute to the overall model fit).

Risk Communication Variable	Regression Coefficient (b)	Standard Error	Odds Ratio	Wald Test	Probability Value
Perceived Self-Efficacy	.28	.08	1.32	13.57	p < .0001
Perceived Susceptibility	.14	.07	1.15	3.84	p = .05

The strongest predictor of group membership into the use versus did not use family planning methods is perceived self-efficacy (as indicated by the Wald significance test and associated probability value). With every one-unit increase in perceived self-efficacy, urban youth are 1.32 times more likely to use a modern family planning method (odds ratio). Higher levels of perceived susceptibility also were related to greater family planning use such that with every one unit increase in perceived susceptibility, urban youth were 1.15 times more likely to use a modern method. These results suggest that, indeed, risk communication variables are critical to target in an HIV/AIDS related campaign.

As stated previously, the model presented and the expanded KAP survey conducted here are designed to explain the underlying mechanisms to behavior change. By addressing these underlying mechanisms to change – especially perceived self-efficacy and susceptibility according to the data above – we can develop campaigns that target specific beliefs, perceptions, norms, etc., in order to close the knowledge/behavior gap.

Analyzing the Data

Now that we have established that some risk communication variables explain the KAP-gap, we will examine the data from the Urban Youth Baseline study to determine specific message guidelines for family planning communications. Recall that there are five steps to effective message design:

Step 1: Examine frequency distributions of each theoretical variable by itself

Step 2: Compare the mean scores (i.e., the averages) of each theoretical variable to each other

Step 3: Create chart of belief strength

Step 4: Determine what influences the theoretical variables

Step 5: Create chart of beliefs to change, introduce, or reinforce

When these steps are completed, we will have specific message guidelines for urban youth family planning programs.

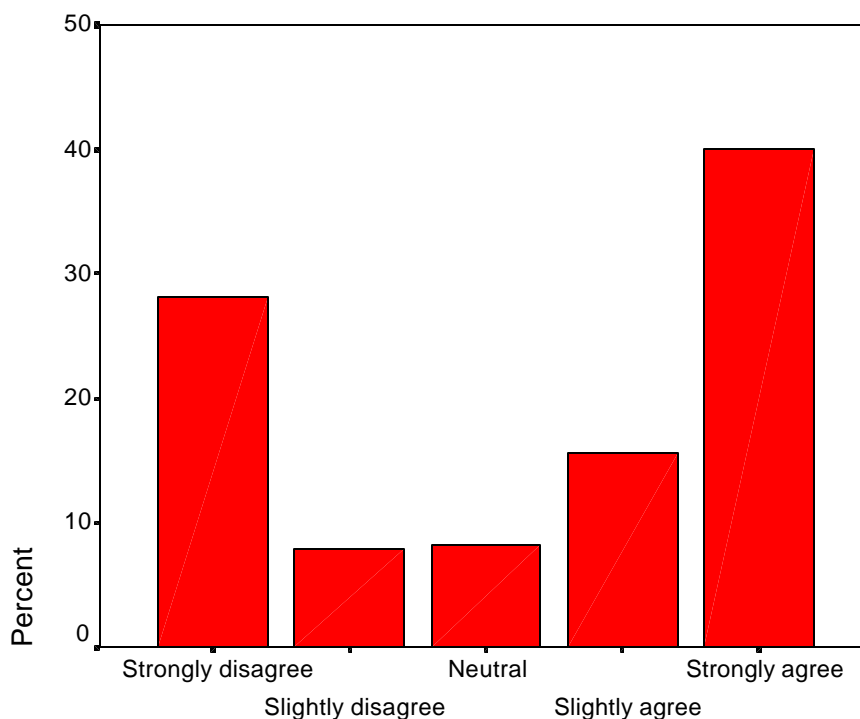
Step 1: Frequency Distributions of Each Theoretical Variable

Following are separate frequency distributions for perceived susceptibility, severity, response efficacy, and self-efficacy. These distributions will give us clues as to how urban youth view their risks of experiencing negative outcomes, as well as how they view family planning methods.

Perceived Susceptibility

Perceptions of susceptibility to having more children than desired were fairly split. Approximately 40% of respondents agreed that they were at risk of having more children than they wanted. However, nearly 30% of the urban youth did not see themselves at-risk for having too many children. These results suggest that part of the urban youth population are motivated to act (the 40% who perceive high risk), but that a substantial percentage still need to be motivated to act (the 30% who do not believe themselves to be at risk). It should be noted that males and females responded similarly to this item, as did teens and young adults (i.e., there were no significant differences between the sexes or age groups in their responses to this item).

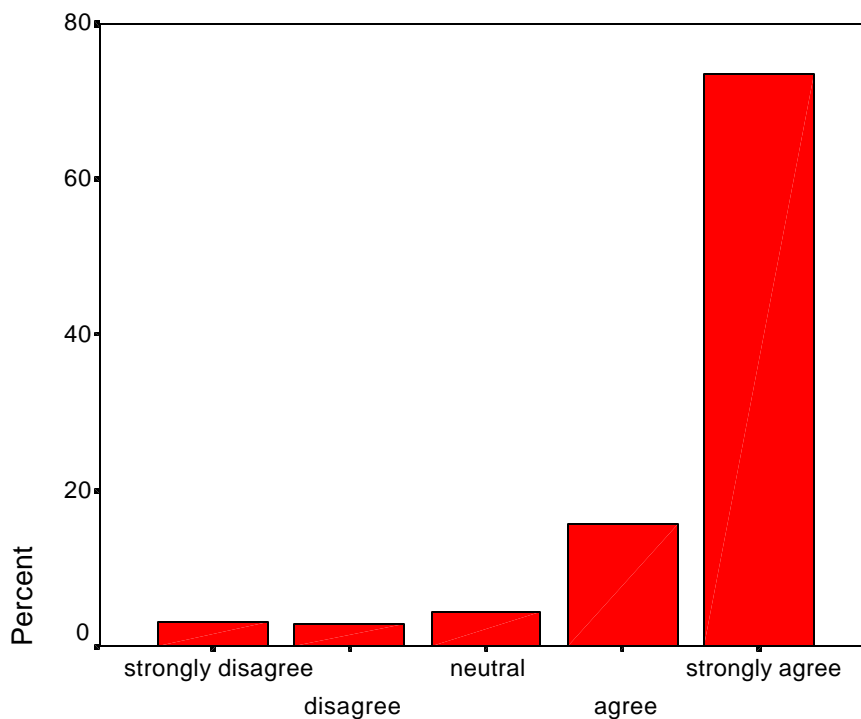
Figure 4.2 Responses to the statement, “I AM AT-RISK FOR HAVING MORE CHILDREN THAN I WANT.”



Perceived Severity

Urban youth nearly universally believed that serious negative consequences come from having more children than desired. There were no significant differences between the sexes or age groups in their perceptions of severity toward having more children than desired. Males and females and teens and young adults all held similar perceptions of severity toward having more children than they wanted.

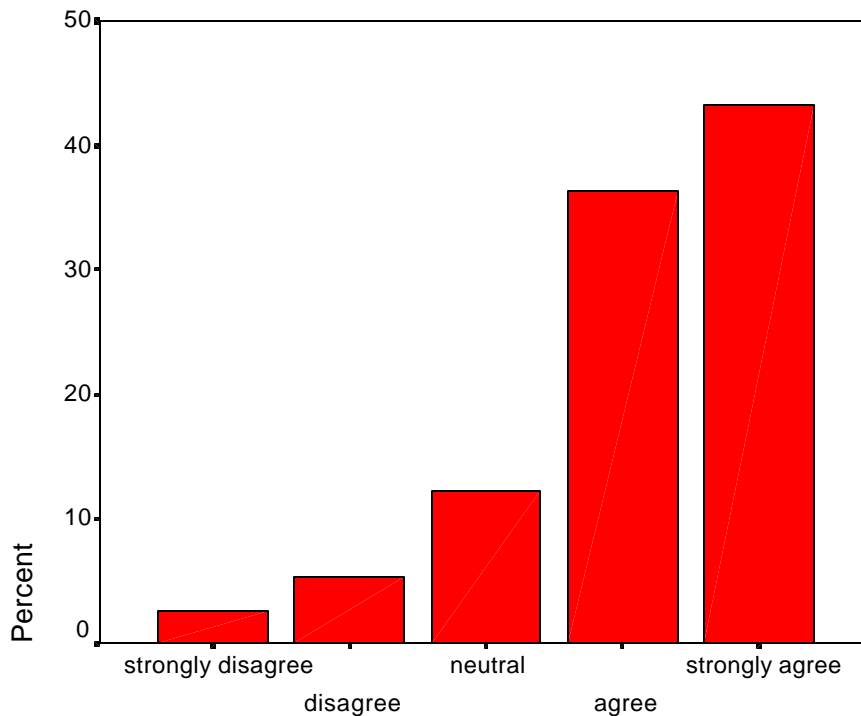
Figure 4.3 Responses to perceived severity statements, e.g., “HAVING MORE CHILDREN THAN I WANT LEADS TO SERIOUS NEGATIVE CONSEQUENCES.”



Perceived Response Efficacy

On the whole, urban youth believed that modern family planning methods worked and that they prevented one from having too many children. Males and females and teens and young adults all held similar perceptions of response efficacy modern family planning methods (i.e., there were no significant differences between the sexes or age groups).

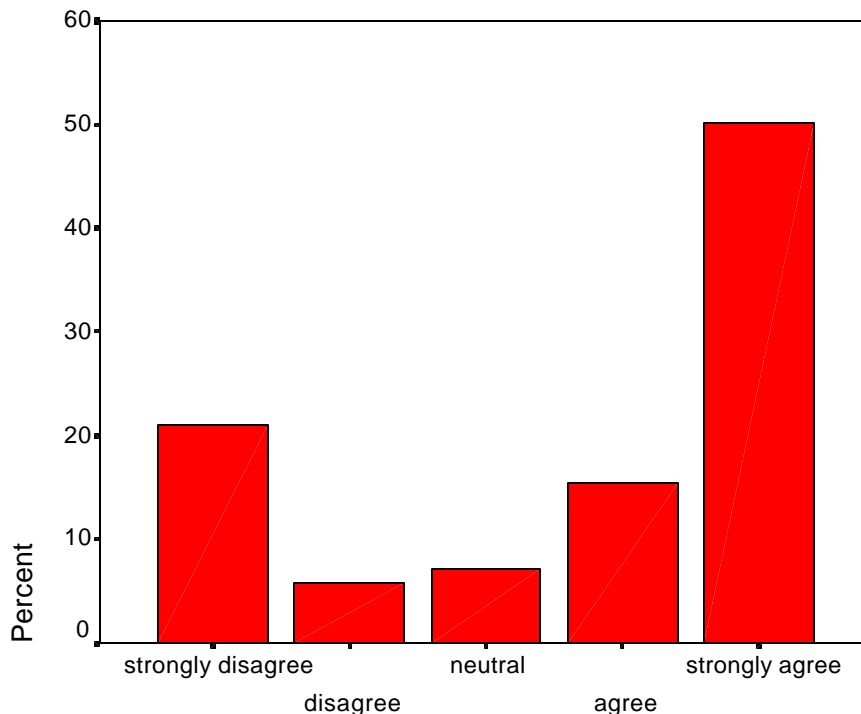
Figure 4.4 Overall responses to perceived response efficacy statements, e.g., “USING MODERN FAMILY PLANNING METHODS WORK IN PREVENTING MY HAVING MORE CHILDREN THAN I WANT.”



Perceived Self-Efficacy

Urban youth were split on their perceptions of self-efficacy toward the pill. About 50% of urban youth strongly agreed that they were able to use the pill to prevent having more children than they wanted. However, a significant group of over 20% of the urban youth strongly disagreed that they were able to use the pill. There were no significant differences between the sexes or age groups in their perceptions of self-efficacy toward using the pill to prevent pregnancy. Males and females and teens and young adults all held similar perceptions of self-efficacy toward the pill.

Figure 4.5 Responses to perceived self-efficacy statements, e.g., "I AM ABLE TO USE THE PILL TO PREVENT MY HAVING MORE CHILDREN THAN I WANT."



Summary

Recall that our goal is to promote danger control actions, so that people are motivated to protect themselves by making appropriate behavior changes. When people are in danger control, they have high levels of perceived susceptibility, severity, response efficacy, and self-efficacy. According to the results presented here, we can now answer the following questions with respect to urban youth's underlying motivations to engage in family planning practices.

***GOAL:** To understand the level of perceived susceptibility, severity, response efficacy, and self-efficacy.*

- How high or low is perceived Susceptibility?

ANSWER: Perceived Susceptibility is split with a portion of the youth believing they are susceptible to having more children than they want, and another significant portion of the youth believing they are not susceptible to having more children than they want. We need to shift those with no perceived susceptibility into the high susceptibility group.

- How high or low is perceived Severity?

ANSWER: Urban youth have strong perceptions of severity toward having more children than desired. There is no need for a campaign on this issue.

- How high or low is perceived Response Efficacy?

ANSWER: In general, urban youth believe that modern family planning methods work in preventing one from having more children than desired. It may be useful to reinforce response efficacy beliefs in a campaign.

- How high or low is perceived Self-Efficacy?

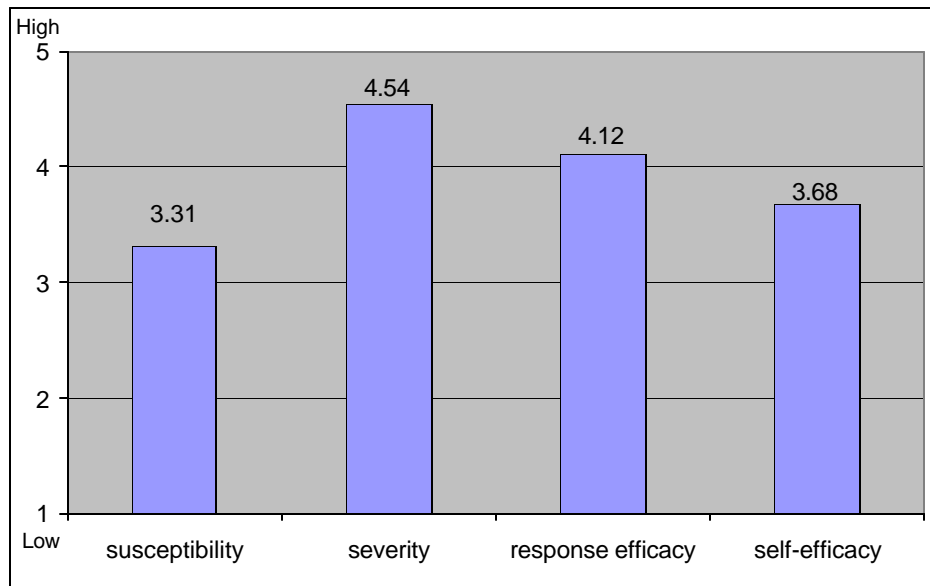
ANSWER: Urban youth are split in their perceived self-efficacy toward using the pill to prevent having too many children. Nearly half believe they are able to use the pill but over 20% explicitly state they are unable to use the pill to prevent having more children than desired. A campaign explicitly needs to address self-efficacy.

With the answers to these questions in mind, we now turn to the comparison of each theoretical variable to the others.

Step 2: Compare the Mean Score of Each Theoretical Variable to Each Other

While we want to promote high levels of each theoretical variable, we also want to make sure that perceptions of response efficacy and self-efficacy are always higher than perceptions of severity or susceptibility, in order to promote danger control responses and prevent fear control responses. Therefore, we should examine Table 4.5 with two objectives. First, each theoretical variable should be between the “4” and “5” marks to represent high levels of each theoretical variable. Second, the efficacy variables should be higher than the threat variables.

Figure 4.6 Average responses to each theoretical variable on a scale of 1 – representing low and 5 – representing high.



These results indicate that an intervention needs to increase perceptions of susceptibility and self-efficacy, and to a lesser extent, response efficacy. However, there is no need to address the issue of perceived severity of having more children than desired because it already is at a high level. Perceived susceptibility is low enough to suggest that many urban youth are in denial about their risk of having more children than they want. Interventions need to educate them about these risks.

Similarly, interventions need to think of creative ways to increase urban youth's perceived ability to use modern family planning methods like the pill. Entertainment education programs that show similar youth modeling how to use the pill, where to get it, and what its effects are would be useful in increasing perceived self-efficacy.

Step 3: Create Chart of Belief Strength

The graph results produced in steps one and two allow us to complete step three. In the table that follows we have marked an "X" in the appropriate box. Now, we have a snapshot of what our intervention needs to focus on. Remember, our goal is to have each theoretical variable in the "strong" category.

<i>Theoretical Variables</i>	<i>Weak or Low Belief Strength</i>	<i>Moderate Belief Strength</i>	<i>Strong or High Belief Strength</i>
Susceptibility	X		
Severity			X

Response Efficacy		X	
Self-Efficacy		X	

We have marked “susceptibility” as weak or low because the results indicated that for a significant portion of the population, perceived susceptibility was extremely low (step 1 results). Further, the mean score of susceptibility was around the mid-point of “3,” which represents a neutral response. Therefore, a campaign needs to increase perceived susceptibility for those persons who do not believe they are at-risk for having more children than desired.

For “severity,” we have indicated that beliefs are already at high levels. Therefore, a campaign does not need to address perceptions of severity toward having more children than desired.

For both response and self-efficacy, we have marked “moderate belief strength” because of the moderate mean scores for each around the “4” mark. However, the self-efficacy figure in step one showed that perceptions of self-efficacy need to be a main focus in a campaign because a significant portion of the population had very low perceptions of self-efficacy.

Step 4: Determine what Influences the Theoretical Variables

Now that we know what variables we need to focus on, as well as how much we need to influence them, we need to determine what causes urban youth to have, for example, low perceived susceptibility. To do this, we conducted a regression analysis to determine which factors influenced each of the theoretical variables simultaneously. We entered the following classes of variables to determine what influences the theoretical variables.

1. demographic variables (e.g., age, sex, marital status, occupation)
2. life experiences (e.g., age at first sex, prior illnesses, prior experiences)
3. knowledge
4. awareness
5. cultural/religious beliefs
6. social norms
7. quality of care issues
8. barriers (transportation, cost, access, beliefs)

The following chart shows which of these antecedent variables influenced the theoretical variables below, as calculated through regression analysis. Remember, for family planning, the data suggest that perceived self-efficacy and perceived susceptibility are the most

important variables to address. Therefore, a campaign should specifically target the antecedents to self-efficacy and susceptibility.

Theoretical Variables	Antecedent Variables (variables associated with or causing the theoretical variables)
<u>Susceptibility</u> $(r^2 = .04)$	<p><u>Subjective Norm, Best Friends</u>, Beta = .10, $t = 2.96$, $p < .01$</p> <p><u>Treatment by Health Workers</u>, Beta = .09, $t = 2.40$, $p = .02$</p> <p>SUMMARY: Urban youth who believe their best friends are concerned about unwanted pregnancies are more likely to feel susceptible to unwanted pregnancies themselves. Also, urban youth who've had good experiences with health workers, appear more likely to trust and take seriously what they say in terms of family planning, and have increased perceived risk of unwanted pregnancy.</p> <p><u>Control Variables:</u> Muslims feel less susceptible to infection than Orthodox Christians, Beta = -.09, $t = -2.55$, $p = .01$; Prostitutes feel more susceptible to infection than any other occupational group, Beta = .09, $t = 2.67$, $p < .01$.</p>
<u>Severity</u> $(r^2 = .08)$	<p><u>Subjective Norm</u></p> <p><u>Partner</u>, Beta = .08, $t = 2.16$, $p < .05$</p> <p><u>Best Friends</u>, Beta = .08, $t = 2.10$, $p < .05$</p> <p><u>Talk with Partner</u>, Beta = .09, $t = 2.42$, $p < .05$</p> <p><u>Family Planning Services</u></p> <p><u>Awareness of Family Planning</u>, Beta = -.09, $t = -2.51$, $p = .01$</p> <p><u>Embarrassment to get FP services</u>, Beta = -.08, $t = -2.41$, $p < .05$</p> <p><u>Treatment by Health Workers</u>, Beta = .12, $t = 3.40$, $p = .001$</p> <p>SUMMARY: Urban youth whose partners and best friends think that unwanted pregnancies lead to serious negative consequences, also tend to think that unwanted pregnancies lead to serious negative consequences. The simple act of talking with one's partner about family planning and unintended pregnancies also increases one's perceived severity of consequences. Also, one's perception and awareness of various family planning services appears to significantly impact one's perceived seriousness of unwanted pregnancies. If one perceives good treatment, is not embarrassed, and is unaware of all services available, then one perceives serious negative consequences from having too many children.</p>

<p><u>Response Efficacy</u> ($r^2 = .13$)</p>	<p><u>Issues with Methods</u> <u>Know where to get FP methods</u>, Beta = .19, $t = 5.21$, $p < .0001$ <u>Quality of FP services good</u>, Beta = .12, $t = 3.48$, $p < .001$ <u>Methods inconvenient</u>, Beta = -.09, $t = -2.61$, $p = .01$</p> <p><u>Talk with others</u> <u>Partner</u>, Beta = .11, $t = 2.90$, $p < .01$ <u>Friends/Family</u>, Beta = .09, $t = 2.49$, $p < .05$</p> <p><u>SUMMARY:</u> Urban youth believe that family planning works in preventing unwanted pregnancies when they know where to get family planning methods, believe the quality of family planning services is good, and believe the methods are convenient to use. Also, youth who talk with the partner, family, and friends about family planning methods are more likely to perceive that family planning works as compared to those who don't talk with partners, family, or friends.</p> <p><u>Control Variables:</u> The higher the educational level, the lower the perceived response efficacy, Beta = -.08, $t = -2.25$, $p < .05$</p>
<p><u>Self-Efficacy</u> ($r^2 = .05$)</p>	<p><u>Subjective Norms</u> <u>Partner</u>, Beta = .09, $t = 2.31$, $p < .05$ <u>Parents</u>, Beta = .07, $t = 1.98$, $p < .05$</p> <p><u>Talk with Partner</u>, Beta = .15, $t = 3.94$, $p < .0001$</p> <p><u>SUMMARY:</u> Youth feel able to use family planning methods when they believe their partners and parents are supportive of family planning, and when they've talked with their partner about family planning methods.</p>

Step 5: Create Chart of Beliefs to Change, Introduce, Reinforce

Based on the antecedent analysis above, we now know exactly what beliefs to focus on in a campaign. The following chart categorizes the data reported in step 4 into beliefs to change, introduce, or reinforce. As you'll notice, sometimes beliefs to target can fall into more than one category. For example, some urban youth think that the quality of family planning services is good – for these youth we simply need to reinforce these beliefs. However, for youth who are unaware of the quality of family planning services, these beliefs need to be introduced. Following is a chart of the antecedent beliefs to focus on in a campaign.

Theoretical Variables	Beliefs to Introduce	Beliefs to Change	Beliefs to Reinforce
Susceptibility	- Best friends concerned about unwanted pregnancies	- Health workers treat clients well; are knowledgeable about family planning	- Health workers treat clients well
Severity	- Talk with partner about consequences of unwanted pregnancies - Partners and Friends believe unwanted pregnancies leads to serious harm (normative beliefs)	- Getting FP is not embarrassing - Awareness of FP sometimes minimizes perceived severity; need to emphasize seriousness of unwanted pregnancies	- Health workers treat clients well
Response Efficacy	- Outline where to get FP services; emphasize quality of services - Talk with partner about FP - Talk with family/friends about FP	- Promote FP methods as convenient to use	- Quality of services is good
Self-Efficacy	- Talk with partner about family planning methods - Partners and parents supportive of FP methods		

The chart above suggests some key messages and behaviors to focus on for a family planning campaign for urban youth. Namely,

1. TALK about family planning methods and unwanted pregnancies with partner. The simple act of talking about family planning issues with one's partner greatly increases these risk communication variables, which in turn lead to increased family planning behaviors.
2. Generate normative beliefs regarding family planning usage with partners, friends, family, and parents. The data above show that if urban youth believe these groups of people favor family planning and view unwanted pregnancies negatively, then the youth will too. These beliefs lead to increased family planning behaviors.
3. Generate positive perceptions of family planning services and health workers. When youth believe that they are treated well by health workers and that the quality of services is good, then they have greater perceived efficacy toward family planning methods and greater perceived threat regarding their risk of having too many children (probably because they trust and believe what health workers say).

At this point, your cultural and scientific expertise come into play. Because you are the practitioner working with this particular culture, you may have creative ideas regarding how to introduce, change, or reinforce beliefs. The chart above simply tells you what beliefs to focus on. If you think the beliefs should go into different categories than what we placed them into (based on your cultural knowledge), then you should shift them around. Either you or perhaps a focus group of the intended population can generate ideas on how to address these beliefs.

After you've generated your campaign messages, it is critical to test, re-test, and refine your messages with members of your focal audience before launching a campaign. Time spent doing this is well worth the effort and ultimately saves time, money, and human resources.

REMEMBER: After developing your messages, TEST, RE-TEST, and REFINE your messages with members of your focal population.

Conclusion

This chapter summarized the urban youth family planning data in an easy to use manner. It provides information grounded in theory and data about exactly what a campaign should focus on. Messages developed according to this process have a greater chance of success because they are based on a tested theory and grounded in the actual data.

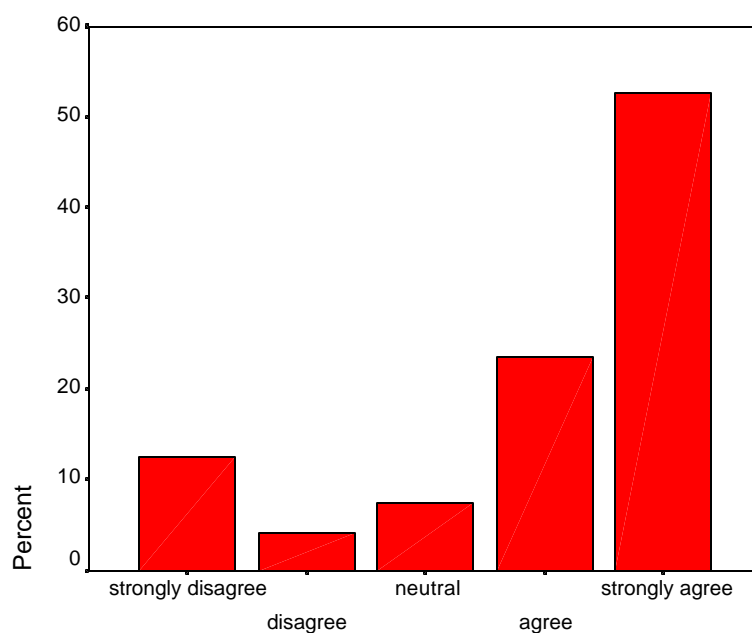
Overview

Is there a KAP-gap?

An examination of the data shows a significant HIV/AIDS prevention KAP-gap in Ethiopia. For example, let us define HIV/AIDS infection as the threat and condom use as an effective recommended response to prevent infection. The results indicate,

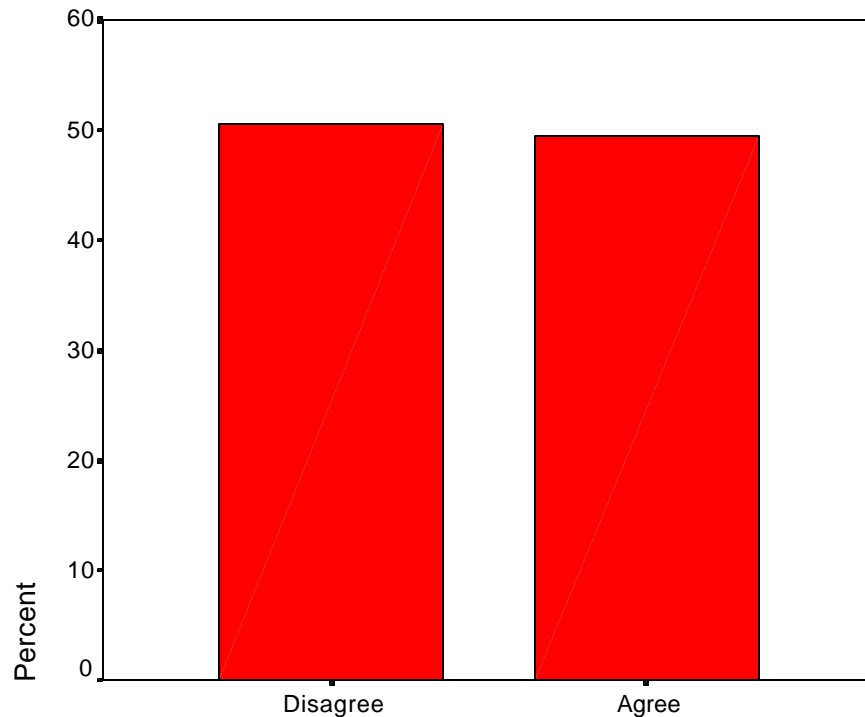
- a. Knowledge/Awareness regarding HIV/AIDS is extremely high: Almost every urban youth surveyed was aware of HIV/AIDS (99.2%) and nearly as many had the knowledge regarding how to avoid infection (97%).
- b. Attitudes are generally positive toward condom use as a means to prevent HIV/AIDS: Table 5.1 below shows the generally positive attitudes urban youth have toward condoms.

Table 5.1 Attitudes toward condoms to prevent HIV/AIDS infection, represented as statements of approval, e.g., “Using condoms to prevent HIV infection is good.”



- c. Actual Behaviors are substantially lower: Of those ever having sex, urban youth were almost perfectly split between those who agree they use condoms to prevent HIV/AIDS infection and those who do not.

Table 5.2 HIV/AIDS prevention behaviors, e.g., “I currently use condoms to prevent HIV infection.”



Even more so than the family planning data, these results suggest a gap between the high levels of knowledge and positive attitudes toward HIV/AIDS prevention methods, and the much lower actual HIV/AIDS related behaviors.

What predicts the KAP-gap?

Figure 5.2 shows that urban youth are almost evenly split between those who use condoms to prevent HIV/AIDS infection and those who do not. What predicts membership in each group? If demographic variables predict who uses condoms versus who does not, then social marketing might be an appropriate strategy where the audience is segmented and receives different messages. However, if the risk communication variables outlined in this theory predict which group youth fall into, then a campaign that targets these variables in accordance with this theory would be appropriate.

Logistic regression analysis, a statistical technique that assesses which variables significantly distinguish between two groups, was used to determine what was causing urban youth to fall into one group versus another. The results revealed that demographic variables, knowledge, awareness, prior experiences, norms, barriers, etc., did **not** cause people to use versus not use condoms.

The following process was used to assess what predicted urban youth who used condoms to prevent HIV/AIDS infection versus those who did not.

4. Demographic variables were entered first, to see if factors such as sex, age, marital status, religion, occupation, education, age at first sex, number of sexual partners, etc., predicted who used condoms versus who did not.
5. Then, awareness of HIV/AIDS prevention methods and knowledge about HIV/AIDS and prevention methods variables were entered.
6. Finally, the risk communication variables of susceptibility, severity, response efficacy, and self-efficacy were entered.

The variables were entered in this order because if something simple like educational status, age, or knowledge about what HIV/AIDS (for example) predicted who used condoms versus who did not, then we could simply segment the target population and educate them appropriately. This is what is typically done because researchers usually do not measure the risk communication variables.

However, the results revealed that the all of these variables typically used to explain condom use dropped out of the equation when the risk communication variables were inserted. Specifically, the best fitting model and the only significant variables to discriminate between the two groups (i.e., use condoms versus do not use condoms) were the risk communication variables of perceived susceptibility, perceived response efficacy, and perceived self-efficacy. None of the demographic, awareness, or knowledge variables significantly predicted which group youth would fall into. (Perceived severity did not influence condom-related behavior, most likely because nearly everyone thought HIV/AIDS was serious and there was no variation in responses.)

The following table shows that perceived self-efficacy, response efficacy, and susceptibility provide the best explanation for why urban youth do or do not use condoms to prevent HIV/AIDS infection. These three variables provide a good model fit explaining the two groups ($\chi^2 = 11.41$ (df 8), $p = .18$), and successfully predict those youth who use condoms 91% of the time. This figure shows that the major reasons youth use or do not use condoms to prevent HIV/AIDS infection are due to these three risk communication variables.

Risk Communication Variable	Regression Coefficient (b)	Standard Error	Odds Ratio	Wald Test	Probability Value
Perceived Self-Efficacy	.83	.13	2.29	40.42	$p < .0001$
Perceived Response Efficacy	.30	.13	1.35	5.42	$p = .02$
Perceived Susceptibility	.23	.10	1.26	5.29	$p = .02$

The strongest predictor of group membership into the use versus don't use condoms groups is perceived self-efficacy (as indicated by the Wald significance test and associated probability value). With every one-unit increase in perceived self-efficacy, urban youth are 2.29 times more likely to use condoms (odds ratio). Higher levels of perceived response efficacy and perceived susceptibility also were related to greater condom use such that with

every one unit increase in perceived response efficacy, urban youth were 1.35 times more likely to use condoms, and with every one unit increase in perceived susceptibility, urban youth were 1.26 times more likely to use condoms. These results suggest that, indeed, the risk communication variables are critical to target in an HIV/AIDS related campaign.

Analyzing the data

Now that we have established that a KAP-gap exists and that the risk communication variables appear to explain the KAP-gap, we can follow the five steps outlined previously in an effort to determine specific message guidelines for HIV/AIDS prevention communications.

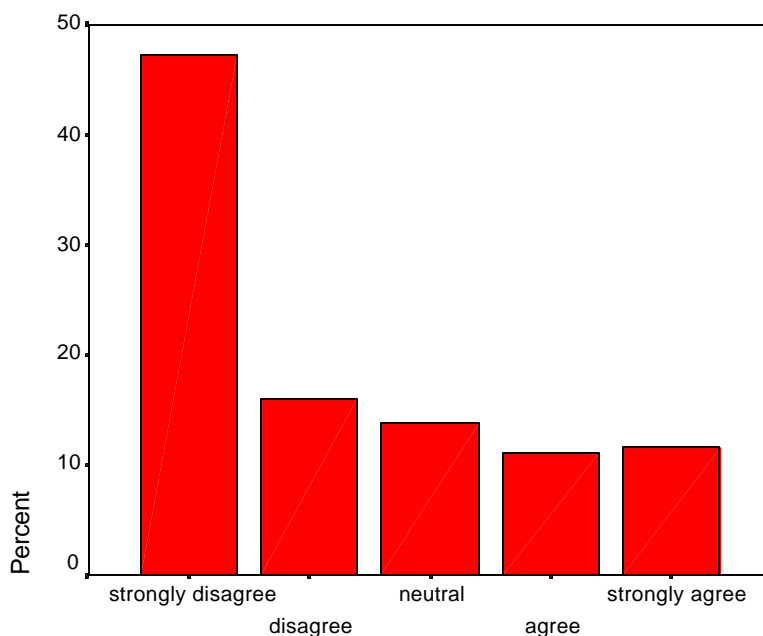
Step 1: Frequency Distributions of Each Theoretical Variable

Following are the separate frequency distributions for perceived susceptibility, severity, response efficacy, and self-efficacy.

Perceived Susceptibility

Urban youth overwhelming felt at low-risk for getting infected with HIV/AIDS. This perceived invulnerability occurred for both males and females, as well as teens and young adults (i.e., there were no significant differences between the sexes or age groups in their responses to this item).

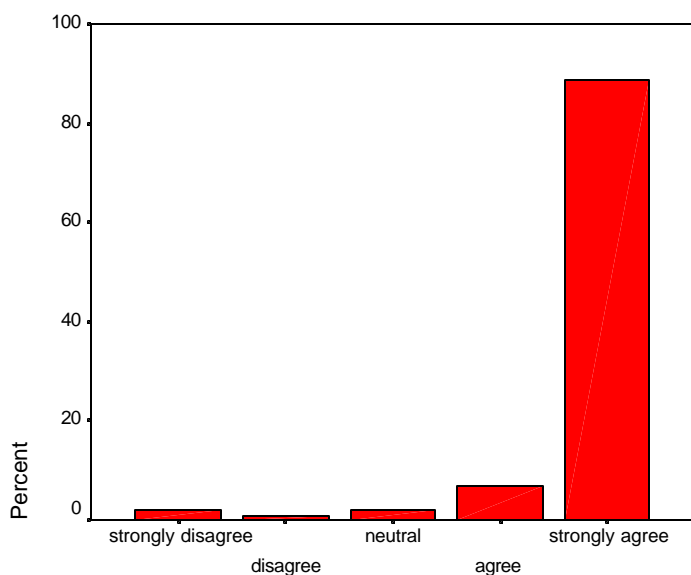
Table 5.3 Responses to the statement, “I AM AT-RISK FOR GETTING INFECTED WITH HIV/AIDS.”



Perceived Severity

Urban youth nearly unanimously agreed that HIV/AIDS was a serious threat that would have substantial negative impact on them. There were no significant differences between the sexes or age groups in their perceptions of severity toward getting infected with HIV/AIDS. Males and females and teens and young adults all held similar perceptions of severity.

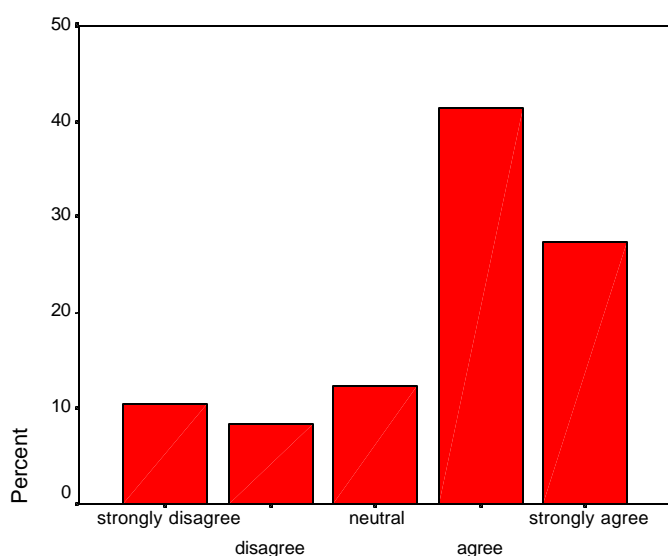
Table 5.4 Responses to perceived severity statements, e.g., “GETTING INFECTED WITH HIV/AIDS WOULD BE THE WORST THING THAT COULD HAPPEN TO ME.”



Perceived Response Efficacy

Urban youth had moderately positive beliefs that they could use HIV/AIDS prevention methods like condoms to prevent infection. There were no significant differences between the sexes or age groups in their perceptions of response efficacy toward methods to prevent HIV/AIDS infection. Males and females and teens and young adults all held similar perceptions of response efficacy.

Table 5.5 Responses to perceived response efficacy statements, e.g., “CONDOMS WORK IN PREVENTING HIV/AIDS INFECTION.”



Perceived Self-Efficacy

Many urban youth said they felt able to use HIV/AIDS prevention methods like condoms to prevent HIV infection. However, approximately 1/5th of the youth doubted their ability to protect themselves with measures like condoms. There were no significant differences between age groups in their perceptions of self-efficacy toward condoms. However, males perceived greater self-efficacy toward using condoms to prevent HIV infection ($M = 4.19$) than females ($M = 3.78$) ($F = 11.82$, $p < .001$, eta-squared = .015).

Table 5.6 All urban youth responses to perceived self-efficacy statements, e.g., “I AM ABLE TO USE CONDOMS TO PREVENT HIV/AIDS INFECTION.”

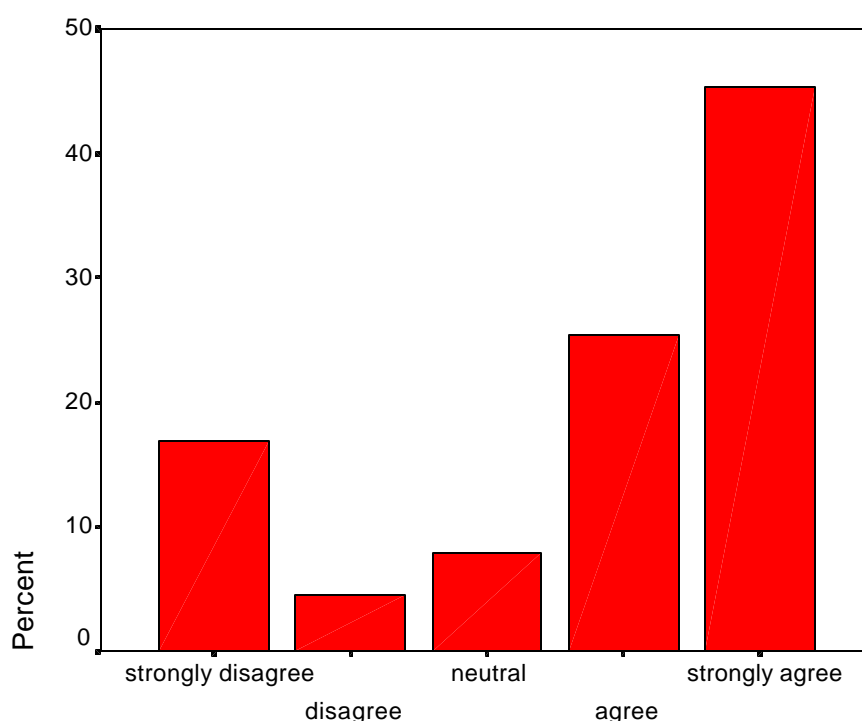


Table 5.7 Male only responses to perceived self-efficacy statements, e.g., “I AM ABLE TO USE CONDOMS TO PREVENT HIV/AIDS INFECTION.”

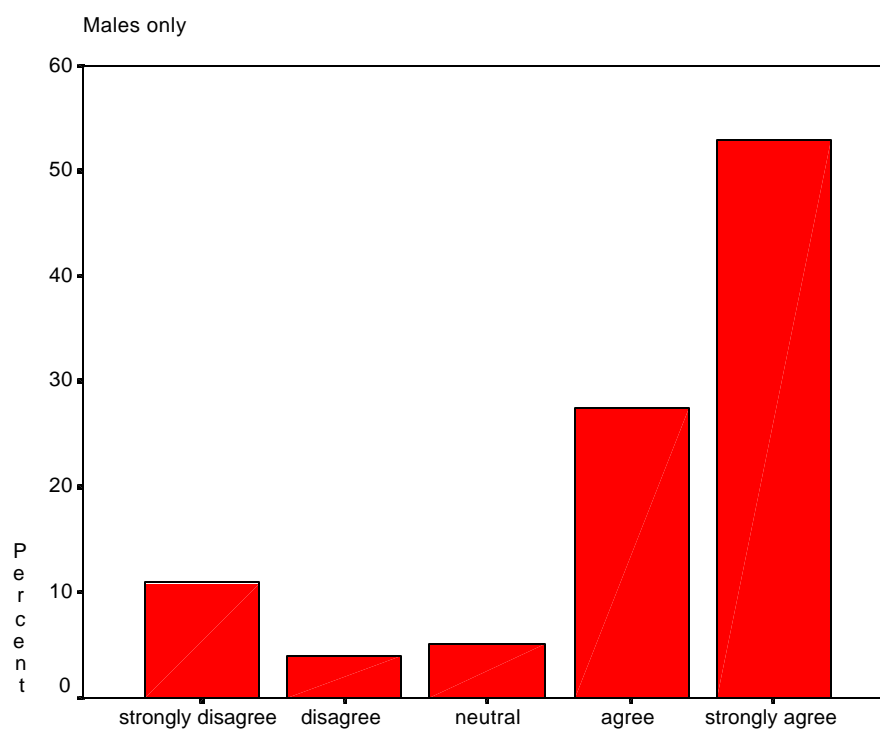
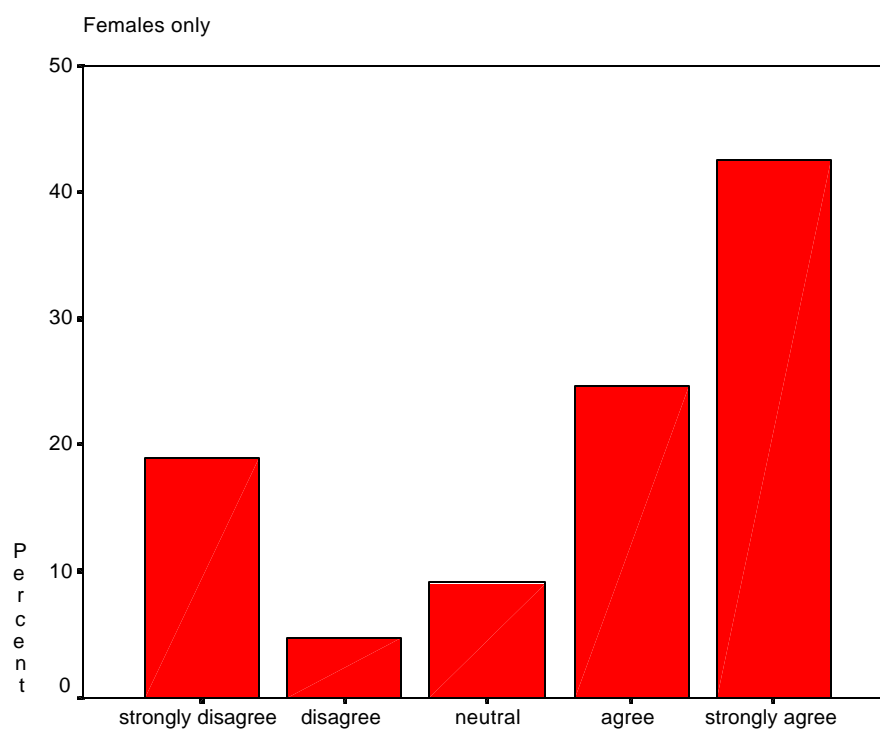


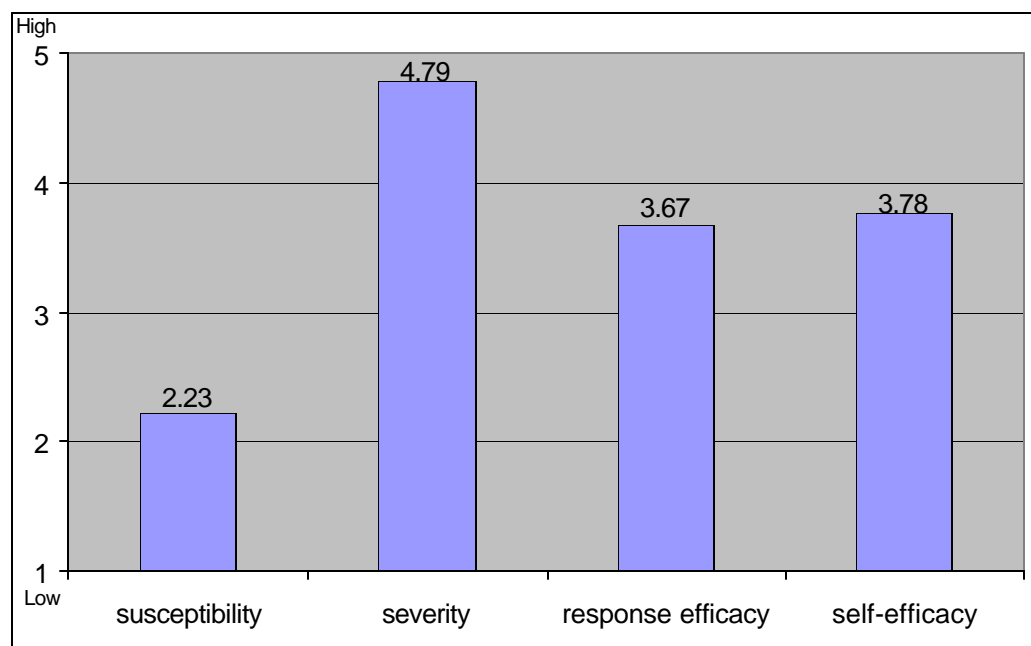
Table 5.8 Female only responses to perceived self-efficacy statements, e.g., “I AM ABLE TO USE CONDOMS TO PREVENT HIV/AIDS INFECTION.”



Step 2: Compare the Mean Score of Each Theoretical Variable to Each Other

An examination of Table 5.9 shows that perceived susceptibility to HIV/AIDS infection is very low, perceived severity is very high, and perceptions of efficacy are near the mid-point.

Table 5.9 Average responses to each theoretical variable on a scale of 1 – representing low and 5 – representing high.



These results indicate that an intervention needs to substantially increase perceptions of susceptibility to motivate action as there appears to be a strong level of perceived invulnerability toward HIV/AIDS infection among urban youth. At the same time, it is critical to increase perceptions of self-efficacy and response efficacy to avoid defensive responses that inhibit action. ***Perceptions of susceptibility should not be increased without first increasing levels of perceived response and self-efficacy.*** Given these results, researchers might suspect there is some level of fear control processing going on where people feel frightened about the risk of HIV/AIDS infection, but doubt their ability to truly do something that would avert it.

Step 3: Create Chart of Belief Strength

Based on the research analyzed in steps one and two, we now can create a chart that gives us a snapshot of what our intervention needs to focus on. Remember, our goal is to have each theoretical variable in the “strong” category.

<i>Theoretical Variables</i>	<i>Weak or Low Belief Strength</i>	<i>Moderate Belief Strength</i>	<i>Strong or High Belief Strength</i>
Susceptibility	X		
Severity			X
Response Efficacy		X	
Self-Efficacy		X	

We have marked “susceptibility” as weak because the results indicated that most urban youth perceived low susceptibility to HIV/AIDS infection (step 1 results). Therefore, a campaign needs to break through these perceived invulnerability barriers and convince youth that they too are at risk for HIV/AIDS infection.

For “severity,” we have indicated that beliefs are already at extremely high levels – probably too high a level. Campaign designers might consider ways to bring down this high level of perceived severity toward HIV/AIDS by giving people hope that there is something that one can do to make one’s life more comfortable if they are infected with the disease. Of course, there is a fine line between having people believe there is hope of a decent quality of life for at least a little while even if they have the disease versus having people believe that getting the disease would have little impact on their lives. The consequences of the disease need to be portrayed as serious and accurate, but not as completely devastating.

For both response and self-efficacy, we have marked the low end of “moderate belief strength” because of the mean scores in the “3” range. It is absolutely critical that campaigns increase perceptions that HIV/AIDS prevention methods work, are acceptable, and that urban youth can easily and readily use them. As stated previously, the data suggest that there might be some fear control processing going on with regard to HIV/AIDS infection given the high level of perceived severity and the relatively low levels of response and self-efficacy. Therefore, campaigns should focus on increasing perceptions of response and self-efficacy.

Step 4: Determine what Influences the Theoretical Variables

In this step we now determine what influences perceptions of susceptibility, response efficacy, and self-efficacy – the three variables step 3 suggested we need to focus on in our campaign. As we did for family planning, we conducted a regression analysis to determine which factors influenced each of the theoretical variables simultaneously. We entered the following classes of variables to determine what influences the theoretical variables.

1. demographic variables (age, sex, marital status, occupation)
2. life experiences (age at first sex, prior illnesses, prior experiences)
3. knowledge
4. awareness
5. cultural/religious beliefs
6. social norms
7. quality of care issues
8. barriers (transportation, cost, access, beliefs)

The following chart shows which of these antecedent variables influenced the theoretical variables below, as calculated through regression analysis. Recall that according to the data analyzed previously, a campaign needs to specifically focus on increasing perceived susceptibility, self-efficacy, and response efficacy. Therefore, a campaign needs to target the antecedents of each of these variables, listed below.

<i>Theoretical Variables</i>	<i>Antecedent Variables (variables associated with or causing the theoretical variables)</i>
-------------------------------------	---

Susceptibility
($r^2 = .18$)

Talk with Partner,

Previous talk with partner, Beta = .10, $t = 2.83$, $p = .01$

Issues with Condoms

Knowledge about Condoms, Beta = -.11, $t = 3.29$, $p < .001$

Methods Cost too much, Beta = .16, $t = 4.89$, $p < .0001$

Services Easy to Get, Beta = .09, $t = 2.64$, $p < .01$

Partner Avoidance of HIV/AIDS

Partner is concerned, Beta = - .12, $t = -3.55$, $p = .0001$

Partner doesn't want to talk about it, Beta = .09, $t = 2.66$, $p = .01$

SUMMARY: A complex set of beliefs contribute to perceived susceptibility for HIV/AIDS for urban youth. The two key messages for campaigns appear to be "talk with one's partner" and "services are easy to get." Specifically, having talked with one's partner about HIV/AIDS increases perceived susceptibility to the virus for urban youth. Also, the easier services were perceived to get for urban youth, the more susceptible they admitted they were to HIV/AIDS infection.

However, the findings strongly suggest fear control processes going on with regard to one's perceived susceptibility to HIV/AIDS infection. For example, youth felt less susceptible to HIV/AIDS infection when their partners demonstrated more concern. The youth were probably defensively avoiding their fear of infection by suppressing thoughts of susceptibility (i.e., if a partner is concerned, then that would give one extra cause for concern). Similarly, youth with partners who didn't want to talk about the virus felt less susceptible to it, probably because they were avoiding any thoughts about the disease and their risk of contracting it.

Counter-intuitively, knowing too much about condoms decreases one's perceived susceptibility, probably because if one knows about condoms and uses them, they actually are decreasing their susceptibility to HIV infection. Inexplicably, believing that HIV prevention methods cost too much increases perceived susceptibility, perhaps because if something is viewed as costly it makes one feel more vulnerable to negative consequences. More research is needed on this cost issue before it should be addressed in a campaign.

Control Variable: Those who are concerned they already have the virus are likely to feel more susceptible to HIV infection, Beta = .30, $t = 9.24$, $p < .0001$

<u>Severity</u> $(r^2 = .04)$	<u>Partner is Concerned</u> , Beta = .18, $t = 5.05$, $p < .0001$ <u>SUMMARY:</u> Urban youth who believe their partners are concerned about the consequences of getting HIV/AIDS also are more concerned about the seriousness of HIV/AIDS infection. <u>Control Variable:</u> The higher the education the less serious HIV/AIDS appeared to urban youth (probably because more educated persons had greater knowledge about treatment strategies, Beta = -.11, $t = -3.20$, $p = .001$.
<u>Response Efficacy</u> $(r^2 = .27)$	<u>Approve of Condoms</u> , Beta = .50, $t = 16.42$, $p < .0001$ <u>Quality of HIV/AIDS services good</u> , Beta = .10, $t = 3.13$, $p < .01$ <u>SUMMARY:</u> Urban youth who had a positive view of condoms and believed that the quality of HIV/AIDS services were good tended to believe that condoms worked in preventing HIV/AIDS infection.
<u>Self-Efficacy</u> $(r^2 = .49)$	<u>Talk about HIV/AIDS</u> <u>Talk with Partner</u> , Beta = .12, $t = 4.59$, $p < .0001$ <u>Decrease Community Stigma in Talking about HIV/AIDS</u> , Beta = .07, $t = 2.70$, $p < .01$ <u>Subjective Norms – Best Friends</u> , Beta = .07, $t = 2.60$, $p < .01$ <u>Condoms/Services Beliefs</u> <u>Approve of Condoms</u> , Beta = .65, $t = 25.25$, $p < .0001$ <u>Quality of HIV/AIDS services good</u> , Beta = .08, $t = 2.91$, $p < .01$ <u>SUMMARY:</u> Talking with a partner about HIV/AIDS and prevention methods increases one's perceived ability to do something to avert the disease. Also, talking about HIV/AIDS and prevention methods in the community, learning about community approval for condoms, and believing that the quality of HIV/AIDS services is good all serve to increase urban youth's beliefs that they are able to protect themselves. Finally, believing that one's best friends are supportive of HIV/AIDS prevention measures makes urban youth believe they can do something to avert infection.

Step 5: Create Chart of Beliefs to Change, Introduce, Reinforce

Here is where your Ethiopia-specific cultural and scientific knowledge come into play. Use your creative ideas to introduce, change, or reinforce beliefs according to the chart below. As stated previously, you may want to convene a focus group or group of

experts to generate ideas on how to target the following beliefs in the appropriate manner for Ethiopian urban youth. The following chart offers suggestions (based on step 4's analysis) as to which beliefs to introduce, change, or reinforce. Again, if you believe that the beliefs should fall into a different category, then feel free to shift them around. Also, note that beliefs can fall into more than one category, depending on urban youth's prior beliefs.

SUMMARY: Talking with a partner about HIV/AIDS and prevention methods increases one's perceived ability to do something to avert the disease. Also, talking about HIV/AIDS and prevention methods in the community, learning about community approval for condoms, and believing that the quality of HIV/AIDS services is good all serve to increase urban youth's beliefs that they are able to protect themselves. Finally, believing that one's best friends are supportive of HIV/AIDS prevention measures makes urban youth believe they can do something to avert infection.

<i>Theoretical Variables</i>	<i>Beliefs to Introduce</i>	<i>Beliefs to Change</i>	<i>Beliefs to Reinforce</i>
Susceptibility	- Talk with partner(s) about HIV/AIDS and prevention methods	- HIV/AIDS prevention services are easy to get	- Talk with partner(s) about HIV/AIDS and prevention methods
Severity	- Partner(s) believes HIV/AIDS is serious problem		- Partner(s) believes HIV/AIDS is serious problem
Response Efficacy	- Using condoms is good, positive, safe, accepted idea	- Quality of HIV/AIDS prevention services is good	- Using condoms is good, positive, safe, accepted idea
Self-Efficacy	- Talk with partner(s) about HIV/AIDS and prevention methods - Generate positive, non-judgmental talk in community about HIV/AIDS and prevention methods - Best friends are supportive of HIV/AIDS prevention methods	- Generate positive, non-judgmental talk in community about HIV/AIDS and prevention methods - Generate approval of condoms as a prevention method - Quality of HIV/AIDS prevention services is good	- Using condoms is good, positive, safe, accepted idea

Based on this chart, an urban youth HIV/AIDS campaign should focus on the following key messages in order to increase perceptions of susceptibility, severity, response efficacy, and self-efficacy, and ultimately, HIV/AIDS prevention behaviors.

1. TALK about HIV/AIDS and prevention methods with Partner(s). The simple act of talking with one's partner about HIV/AIDS and prevention methods increases perceived susceptibility to the disease, perceived severity of the disease, and perceived self-efficacy toward doing something to avert infection.
2. Generate normative beliefs regarding HIV/AIDS prevention with partner and friends. If urban youth believe their partners and friends are concerned about and engaging in HIV/AIDS prevention measures, then they will too.
3. Generate positive perceptions toward the quality of HIV/AIDS prevention services and toward condoms as a preventive measure. Youth who believe that condoms

are viewed positively and who believe that the quality of HIV/AIDS related services are good are more likely to believe they can do something to effectively avert infection. This point is critical in preventing fear control responses where people feel helpless to make self-protective behavior changes.

4. Decrease community-level stigma in talking about HIV/AIDS and prevention measures. Currently there appears to be much stigma in talking honestly about HIV/AIDS and adequate protective measures. Campaigns need to reduce stigma regarding the disease as well as protective measures like condoms in order to increase self-protective behaviors.

Again, with any key campaign messages generated, it is critical to test, re-test, and refine your ideas with members of your focal audience before launching a campaign.

REMEMBER: After developing your messages, TEST, RE-TEST, and REFINE your messages with members of your focal population.

Conclusion

This chapter summarized the urban youth HIV/AIDS prevention data in an easy to use manner and provides specific guidelines about what an HIV/AIDS prevention campaign should focus on.

Overview

At the request of Ethiopian practitioners attending JHU/PCS workshops, separate tables were generated for each region according to age group (15-20 years old, 21-30 years old) and sex (male, female). Demographic features and frequencies of behaviors are reported as percentages of persons within each category (e.g., % of males aged 15-20, % of males aged 21-30, etc.). Perceptual questions (Tables 6 and 7 for each region) are reported as mean scores (standard deviations in parentheses) with 1 representing “strongly disagree” and 5 representing “strongly agree,” as follows:

1	2	3	4	5
Strongly Disagree				Strongly Agree

The original baseline report, available from the Addis Ababa or Baltimore Johns Hopkins University/Population Communication Services offices, details when any significant differences existed across regions. Results are also summarized below, followed by tables of specific information by region.

Sexual Differences by Region (only statistically significant results reported)

- Respondents from Tigray were the most likely to ever had sex and respondents from Addis Ababa and environs were least likely to have ever had sex ($p < .05$, Tukey’s test), with the other groups falling in between the two.
- Respondents from Amhara region reported significantly greater sexual activity than respondents from Addis Ababa, with the other regions falling somewhere between the two. Males were significantly more likely to have had sex during the past month ($t = 2.45$, $p < .01$), during the past week ($t = 2.61$, $p < .01$), during the past 24 hours ($t = 2.36$, $p < .01$), and to have had significantly more sexual partners during the past week ($t = 2.05$, $p < .05$), as compared to females.

Family Planning Perceptions by Region (only statistically significant results reported)

- Significant differences for perceived susceptibility existed across regions, such that respondents from Tigray felt significantly more susceptible to

having more children than desired, as compared to all other regions, $F(4,753) = 16.96$, $p < .0001$.

- Significant fear levels existed across regions, such that respondents from the Addis Ababa and Tigray regions were significantly more scared of having too many children than those from the SNNPR ($p < .05$, Tukey's test), with Oromiya and Amhara falling in between.
- Those from Oromiya most often held the strongest self-efficacy beliefs across all methods, and those from Addis Ababa and environs held the weakest self-efficacy beliefs, $p < .05$, Tukey's test.
- Significant differences existed across regions, with those in Amhara, Tigray, and Oromiya holding stronger response efficacy beliefs than those in SNNPR and Addis Ababa and environs ($p < .05$, Tukey's test).
- Significant differences existed across regions, such that respondents in Oromiya and Amhara held more positive attitudes toward various methods than respondents in SNNPR and Addis Ababa and environs ($p < .05$, Tukey's test).
- Amhara respondents perceived slightly more reactance ($M = 1.93$) than Addis Ababa and environs' respondents ($M = 1.53$; $p < .05$, Tukey's test), with respondents from the other regions falling in between the two extremes.
- Respondents living in Oromiya and Amhara had significantly stronger intentions to use family planning methods during the next six months than those in other regions ($p < .05$, Tukey's test).
- Amhara respondents said alcohol influenced their behaviors significantly more than those in Addis Ababa and environs, with the other regions falling somewhere in between ($p < .05$, Tukey's test).
- Amhara and Tigray respondents said chat influenced their behaviors significantly more than respondents in the other regions ($p < .05$, Tukey's test).
- Respondents from Amhara experienced the strongest perceived barriers toward family planning usage, as compared to other regions ($p < .05$, Tukey's test).
- Those respondents from Amhara, Oromiya, and SNNPR were more likely to communicate interpersonally about family planning than respondents from Tigray and Addis Ababa and environs ($p < .05$, Tukey's test).

HIV/AIDS Perceptions by Region (only statistically significant results reported)

- Those in Oromiya held significantly stronger self-efficacy beliefs than those in Addis Ababa and environs, with the other regions falling somewhere in between ($p < .05$, Tukey's test).
- Oromiya respondents held significantly more positive attitudes toward condoms than Addis Ababa participants ($p < .05$, Tukey's test). In contrast, Addis Ababa, Oromiya, and Amhara respondents held significantly more

positive attitudes toward abstinence than did respondents from Tigray and SNNPR ($p < .05$, Tukey's test).

- Respondents from SNNPR had significantly greater levels of defensive avoidance than did respondents from Amhara, with the other regions falling somewhere in between ($p < .05$, Tukey's test).
- Though respondents from all regions reported low reactance (mean score of 2.14 or lower), those respondents from Amhara reported significantly greater reactance toward HIV/AIDS campaigns than those from Addis Ababa, with the other regions falling somewhere in between ($p < .05$, Tukey's test).
- Respondents from Addis Ababa and SNNPR held significantly weaker intentions to use condoms as compared to the other regions; respondents from Tigray and SNNPR held significantly weaker intentions to be abstinent to prevent HIV/AIDS infection than the other regions; and, respondents from SNNPR held significantly weaker intentions to be monogamous to prevent HIV/AIDS infection as compared to the other regions ($p < .05$, Tukey's test).
- Respondents from Addis Ababa and SNNPR were significantly less likely to protect themselves against HIV/AIDS infection (across all three measures) than respondents from Amhara and Oromiya, with Tigray respondents falling in between ($p < .05$, Tukey's test).
- Typically, respondents from Amhara and Oromiya felt more support for HIV/AIDS prevention behaviors for all referents as compared to respondents from Tigray, SNNPR, and Addis Ababa and environs ($p < .05$, Tukey's test).
- Respondents from the Amhara and Tigray regions were significantly less likely to believe they could talk about HIV/AIDS than those from SNNPR and Addis Ababa and environs ($p < .05$, Tukey's test).
- Those in Amhara reported significantly more interpersonal communication than did those from SNNPR, with the other regions falling somewhere in between ($p < .05$, Tukey's test).
- Respondents living in Addis Ababa and environs perceived the quality of services and treatment by health workers to be significantly worse than respondents from other regions ($p < .05$, Tukey's test).

The results just highlighted represent all the statistically significant results between regions. If no differences between regions were highlighted above, then this means that the results were similar across regions, with no significant differences. Following are tables of results by region.

Addis Ababa and Environs

[[insert “Addis Ababa fact sheet” file]]

Amhara Region

[[insert “Amhara fact sheet table” file]]

Oromiya Region

[[insert “Oromiya fact sheet” file]]

Southern Nations & Nationalities Peoples Region

[[insert “SNNPR fact sheet” file]]

Tigray Region

[[insert “Tigray fact sheet tables” file]]

Summary

Overall, the EPPM is a model that details how to create communications in order to “manage fear.” If a population is already frightened from a serious threat, they are motivated to act (according to the theory). Our job as practitioners, then, is to make sure that the population feels able to do a recommended response and believes that the recommended response works in averting the threat (i.e., promote high self-efficacy and response efficacy perceptions to accompany the already existing high threat perceptions). In short, when health practitioners frighten people with serious threats or when people are already frightened, we also must give them hope. We must also give them the means to reduce their fear. Too little perceived threat and the audience won’t respond. They just won’t perceive a need to respond. Too much threat with little hope of an effective response and the audience may go into denial or worse, reactance, and blame the government or ministry of health for the problem. Fortunately, the EPPM offers specific guidance about how to manage fear and give hope in order to promote life-saving protective actions and prevent maladaptive responses like fatalism or denial.

This supplemental report outlined the step-by-step procedures for developing effective health risk messages, offered specific message guidelines for family planning and HIV/AIDS prevention campaigns targeted toward urban youth, and offered specific tabular information regarding urban youth by region. Similar strategies can be used for other focal populations.